

THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. LXXVII. NEW YORK, SATURDAY, NOVEMBER 24, 1900. No. 21.

ORIGINAL ARTICLES.

EDEMA BULLOSUM VESICÆ.

By FREDERIC BIERHOFF, M.D.,
OF NEW YORK.

OF the forms of edema which affect the human bladder that which Kolischer ("Erkrankungen der weiblichen Harnröhre und Blase") describes as "edema bullosum" is perhaps the most characteristic, and certainly the most interesting.

To quote his description of this condition, which is classic in its exactness: "Circumscribed portions of the vesical mucous membrane appear to be covered with clear vesicles varying in size from a small seed to a pea; between these frequently closely-crowded vesicles one sees white particles floating, which are adherent at one extremity to the bladder-wall and are, in all probability, the remains of the membrane of vesicles which have already ruptured. In especially exquisite cases, this formation of vesicles is, with regard to their size and number, an exceedingly large one, so that one inclines to the belief that one sees a part of a hydatid mole." He also states that in each case in which he saw this form of edema, it occurred at a part of the bladder-wall to which an adjacent inflammatory tumor had become attached or when a pus-tumor had broken through into the bladder, leaving a fistulous communication, however, so that the purulent contents of the tumor remained under pressure. The finest forms, he states, occur where an exudate exists between the uterus and bladder, and adds that he does not hesitate to designate the occurrence of this phenomenon as an indication of the inflammatory nature of a tumor adjoining the bladder.

With this statement my experiences with this condition lead me to agree fully, as also with the further one, that he has only seen it occur in cases of carcinoma uteri when inflammatory changes in an ulcerating carcinoma of the cervix have led to infiltrations in the region where the cervix and bladder are connected. But that, in such cases, the bullæ occur only as isolated formations, I cannot accept as true for all cases, for in some of the cases of carcinoma which I have examined the picture was exquisite with regard to the extent and characteristic development of the condition. In fact, in the later stages of carcinoma of the uterus and parametrium, where the process had extended to and involved the bladder-wall, the picture was clearer and the process more extensive than with any of the other causes.

Since the condition is due to the lifting up of

the superficial epithelium of the bladder by exuded serum, it may be caused by any condition, inflammatory or neoplastic, which obstructs the circulation in any part of the bladder-wall. Hence, the nearer these causative processes approach the mucous surface of the bladder, the more pronounced will be the edematous condition. Casper ("Handbuch der Cystoskopie") mentions having seen edema bullosum in a number of females; and also in males, especially where tumors of the prostate were present, which protruded high up into the bladder. In such cases he says, it is found on the floor of the bladder. In one case of prevesical abscess in the male he also found it on the upper wall. He also claims to have seen this phenomenon in the neighborhood of vesical tumors, surrounding these with a wreath of vesicles. He concludes that its seat is at that part of the bladder-wall where the interference with the circulation is the most marked, and that it is never to be found in a bladder which is entirely normal. But he also remarks upon the difficulty which at times arises in the attempt to differentiate between edema bullosum and fimbriated tumor-formations.

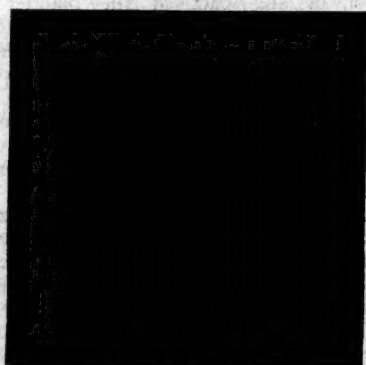
One of these conditions, a hypertrophic form of cystitis, described by me (MEDICAL NEWS, May 26, 1900) under the designation "cystitis papillomatosa," or villosa, at times closely resembles edema bullosum. In differentiating between the two, or between edema bullosum and the minute papillomata which occur at, or near the inner sphincteral margin, we must bear in mind that while in edema bullosum we have to deal with vesicles filled with clear, transparent serum, in cystitis papillomatosa we find an inflamed surface covered with minute papillæ, which, on closer examination, are found each to possess a vascular loop. Similarly, also, with the minute, discrete papillomata at the sphincter. These last-mentioned are found at times on or just behind the margins of the sphincter, and are, when small, perfectly transparent, excepting for a beautifully clearly-defined vascular loop. When larger they lose partially or completely their transparency, but the vascular loop may almost always be distinguished, if not throughout the entire growth, then near the free end at least, where the main growth at times becomes somewhat fimbriated.

They may give rise to dysuria of a varying degree of severity, and may occur as an accompaniment of mild, catarrhal inflammations about, or at the sphincter, or without any discoverable inflammatory accompaniment. Lastly, whereas the bullæ of the edematous process tend to assume a hemispherical or lenticular form, the pa-

pillomatous processes take the form of slender, long tongues, with rounded, or even clubbed ends.

In all, fifteen cases of typical edema bullosum have come under my observation. They were as follows: Carcinoma (affecting uterus and parametrium), 4; catarrhal cystitis colli, 4; suppurative cystitis colli, 1; gonorrheal cystitis colli, 1; ulcerations, superficial, following cauteriza-

FIG. 1.



Papillomatous growth at and near sphincter vesicæ, in a case of cystitis gonorrhoeica.

tion with cystoscope, 2; pyosalpinx with parametritic exudate, 1; cystocele (without discoverable inflammatory changes in the vesical wall), 1; urethritis (involving, also, the vesical sphincter-margin), 1.

Where it occurred as an accompaniment of carcinoma, the latter had, in every case, spread from the uterus to the parametrium and thence to the bladder-wall. In all four the base of the bladder, either at, or just above the ligamentum interuretericum, was affected, and was marked by pronounced transverse folds involving, in three cases, either one or both ureteral orifices, in the fourth leaving both unaffected. The diseased parts of the bladder-wall were, in each case, covered with edematous, or congested and edematous mucous membrane, marked with numerous, transparent bullæ. The vesical symptoms complained of were, in two cases, frequent and painful urination, and, in the other two, diurnal and nocturnal incontinence of urine. In the first two cases, the character of the urine indicated inflammatory vesical changes, in the last two it was entirely normal, giving no microscopic evidences of inflammatory reaction.

In the four cases of catarrhal cystitis colli, as also in those of suppurative and gonorrheal character and in that of urethritis, the circumference of the sphincter margin was marked by discrete, transparent vesicles. In one case the trigone also was affected; the rest of the bladder was normal.

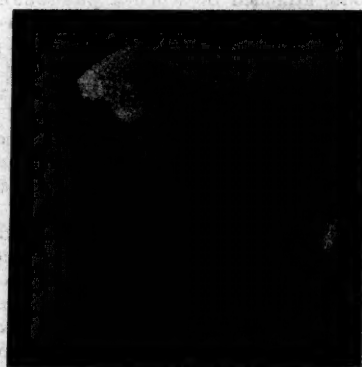
The symptoms, in each of these patients, were those of the original condition, *vis.*, cystitis or urethritis, abnormally frequent urination, with a

varying degree of pain, or tenesmus. In those cases where it was an accompaniment of an ulceration due to cauterization with the cystoscope-lamp, it was not seen until the reaction had been in progress for several days, and the burnt surface had begun to slough away. In both cases the bullæ formed immediately at the circumference of the ulcer. In neither case was there any symptom referable to the ulcer, although one occurred in a case of suppurative cystitis. Where it occurred in the course of a pyosalpinx and accompanying parametritis, the bladder-wall covering the tumor was found to bulge decidedly inward, to be edematous, and the seat of several ecchymoses and a number of transparent pea-like vesicles.

Here, again, the vesicles were, due to their transparent nature, recognizable chiefly by the shadows which they cast. Appropriate treatment of the exudate, which was followed by diminution in the size of the tumor, as well as regression of the inflammatory symptoms, was also followed by complete disappearance of the edema bullosum. Where it accompanied a cystocele, in an elderly female, the region of the lower margin of the sphincter, and the trigone were the seat of the vesicles. No signs of inflammatory changes were discoverable in this case, nor were any other physical symptoms than nocturnal and at times diurnal incontinence of urine present. Suspicion of carcinoma was not verified, although repeated, careful gynecological examinations were made with the view to determine this point.

I am not inclined to ascribe decided diagnostic

FIG. 2



Similar, but larger growth, on opposite side of sphincter margin.

value to this phenomenon, as it seems to occur as an accompaniment of many different inflammatory or infiltrative processes. I agree, however, with the views of Kolischer and Casper, that its presence denotes the extension of an inflammatory or infiltrative process to the bladder-wall, and its approach toward the mucous surface.

630 Madison Avenue.

THE OPERATIVE TREATMENT OF UGLY EARS.

BY JOHN B. ROBERTS, M.D.,

OF PHILADELPHIA;

PROFESSOR OF SURGERY IN THE PHILADELPHIA POLYCLINIC.

EVEN within what may be termed physiological limits great variation exists in the size and contour of the external ear. Disfigurement occurs, however, when there is a disparity in the size of the two organs, when any other condition of asymmetry is present, or when a marked variation from the usual size, position or contour exists in one or both auricles.

This short paper is presented to the Society to direct the attention of its members to the great improvement possible in many auricular deformities. A recent French author has intimated that all medical men should be cognizant of the possibilities of modern aseptic surgery; because, even if unprepared or unwilling to undertake certain operative procedures himself, every practitioner should be at least familiar with the fact that in given conditions operative relief is possible and perhaps imperative. This same line of argument holds good in the case of unsightly conditions of the ears. Many persons care little for personal appearance and are not affected by the existence of a deformity which would make another individual morbidly sensitive and very unhappy. It seems well, therefore, for all surgeons to study with some degree of earnestness the correction of auricular defects. The subject is perhaps the more worthy of attention as operative treatment for the correction of these conditions is free from risk and usually unaccompanied by confinement to bed or even absence from business pursuits.

A lacerated or incised ear should be subjected to thorough sterilization and careful suturing, so that the irregular surface may match that of its fellow. Fine silk is probably the best suture material. Wisdom in directing the course of the needle through the tissues will enable the surgeon to preserve the shape of the organ and make a very good ear even after considerable loss of structure.

After the removal of tumors or the occurrence of sloughing from burns, frostbite or injury, much artistic skill is occasionally demanded in order to restore the symmetry of the two ears. It may at times be necessary to alter the shape or size of the uninjured ear, to obtain a proper correspondence with the one which has been subjected to a traumatic change. If material is needed to take the place of lost tissue, it is to be transferred from the neck or cheek or transplanted from the hand, abdominal wall or thigh. A portion of a finger or a flap from the palm of the hand may be utilized; or a thick flap from the front of the abdomen or the thigh may be first grafted upon the hand and two or three weeks later fixed to the stump of the ear. Such a mass of muscle, fascia and skin is then modeled into proper shape by a series of minor operations.

The deformity due to tearing out earrings or to the simple piercing of the lobule for these ornaments requires excision of the cicatrized margins of the fissure or orifice and neat suturing. The proceeding is practically the same as that to be adopted if a native of Africa or the South Seas desired relief from the disfigurement left after discarding the customary nose-ring or lip-plate.

Some deformities or distortions may be corrected by orthopedic means, such as pads or springs, or by repeated applications of collodion. Artificial ears have been constructed of metal and other materials, and it has been suggested to imbed plates of platinum within the tissues to give rigidity to flaccid parts.

Congenital nodules in the region of the ear, sometimes called supernumerary auricles, are to be excised; unless they can be used to advantage in correcting the shape of the true auricle, in case it be misshapen. Fistulae in the same region are to be closed by dissecting out the tubular tract and neatly closing the resultant wound.

Very large ears may be successfully reduced by excising a wedge-shaped piece, or by removing a crescentic piece from the central portion of the auricle and a horizontal strip outward from the centre of the convex margin of the crescent. It is not rare for the auricles to seem exceedingly large, when the real cause of the uncomeliness is the manner in which they stand out from the side of the head. Flaring ears seem elephantine when not much above normal size. The two conditions may coexist. The deformity then becomes very conspicuous.

Flaring ears are corrected by excising a vertical ellipse of skin and fascia from the posterior surface of the auricle and the adjacent portion of the skull, and then cutting a vertical wedge-like strip from the exposed cartilaginous structure of the organ. Sutures are then employed to sew the auricle close to the skull. Bandages or spring pads are to be used until the union is sufficiently firm to prevent tearing of the scar tissue by unexpected movements during sleep. If a condition of gigantism coexists with the flaring, the operation for reduction of the size of the auricle may be done at the same time. A similar method is to be employed in lap ears, in which the auricle droops forward because of imperfect development of cartilage. The displaced organ should be sewed to the scalp in such a way as to neutralize the tendency to droop. It might be possible to stiffen the auricle by inserting a thin sheet of metal in the tissues. Perhaps such an implanted metallic strip could be bent, after it had become encysted, to resemble more closely the ridges and hollows.

Absent ears, from a want of development during intra-uterine life or from accident, may be represented by celluloid, papier maché or platinum constructions, properly tinted. Instead of these appliances, repeated plastic operations may be successful in making a rude representation of the normal ear.

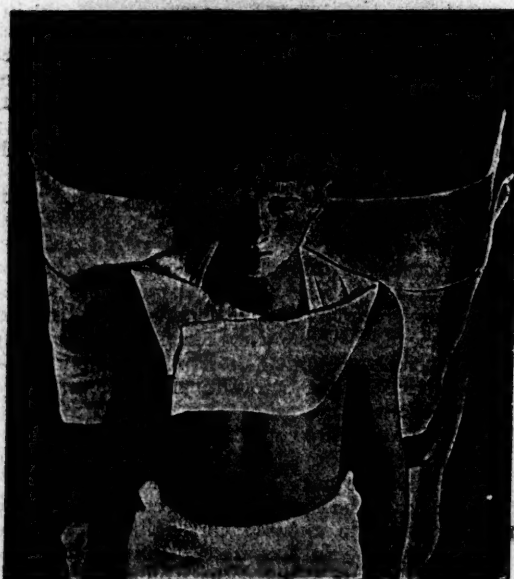
* Read by title before the Medical Society of the State of Pennsylvania, Wilkes-Barre, September 20, 1900.

THE HYDRIATRIC TREATMENT OF TUBERCULOSIS.¹

By J. H. KELLOGG, M.D.,
OF BATTLE CREEK, MICH.

(Concluded from page 768.)

Reports of a few cases are appended which are presented as illustrations of what may be expected of rational hydiatric treatment conducted under favorable conditions. An elevated region is unquestionably necessary to secure the best results from hydiatric treatment, nevertheless the experience of Winternitz, Aberg, as well as my own, has clearly demonstrated that it is possible to effect a cure of tuberculous disease of the lung by hydiatric treatment without this advantage.



SQUARE CHEST PACK. (1.)

Fig. 13.

Case 1.—Rev. G. T. came under my care in the autumn of 1866. I found a cavity as large as a hen's egg in the left apex. The patient was expectorating freely; portions of the yellow elastic tissue and great quantities of pus were constantly present in the sputa. He had an even temperature of 103° F., pulse was 90 to 100, breath exceedingly short. The patient was greatly emaciated and scarcely able to walk. I pronounced the case a hopeless one and advised the patient to return home, but he refused to do so and insisted upon receiving treatment. He showed so much pluck and determination that I thought I ought to give him a chance. The result was that in four months the patient returned home with a normal temperature, only a slight cough, very little expectoration, and

pulse 60. He was able to walk several miles and to resume his profession as a clergyman. After a few months more spent under my care by my advice he went to Colorado to reside. For many years I heard from him frequently and he always represented himself as enjoying good health.

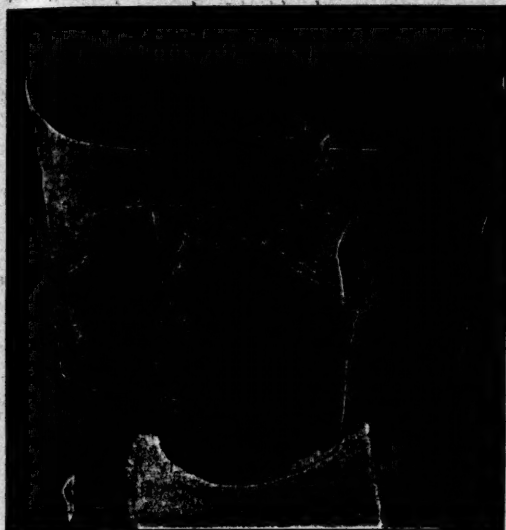
After seeing so many cases of recovery from this dread malady by the employment at the Battle Creek Sanitarium of the measures named, I determined several years ago to secure if possible the same advantages for patients in a dry and elevated region. Within the last five years the establishment of a well-equipped sanitarium under the same auspices at Boulder, Colo., has afforded opportunity for observing the progress of patients under rational treatment at an elevation of between five and six thousand feet. The large number of recoveries which have occurred and the astonishing rapidity with which they have taken place in many cases have convinced me that by a combination of thoroughly rational and physiological treatment with climatic advantages, a cure may be secured in seventy-five or eighty per cent. of all cases of consumption when treatment can be begun in the early stages of the disease and in perhaps forty or fifty per cent. recovery may be expected in cases in which the disease has attained to the second stage before treatment is begun. Recovery may be expected in a small proportion of cases even when the disease has made still greater advances.

The following report of cases of pulmonary tuberculosis successfully treated by hydiatric measures at the Boulder Sanitarium, Boulder, Colo., has been kindly furnished by Dr. W. H. Riley, Superintendent of the Boulder, Colo., Sanitarium.

Case II.—Mr. B., from Ohio, aged twenty-eight years. Gave history of tuberculous trouble in his family. The patient had enjoyed fairly good health up to about three years previous to placing himself under my care at the Colorado Sanitarium. At about this time, that is, three years previous to his coming under my care, he had bronchial trouble from which he partially recovered. Later his cough increased and he began to expectorate and had a temperature of 101.5° to 102° F. at night. When he came to the Colorado Sanitarium he had a bad cough, expectorated and had a temperature of 101° F. at night; was very weak, thin, and anemic, and could walk only a few rods at a time. The physical examination of chest revealed a partial consolidation in the upper and middle lobe of the right lung, and the bacilli of tuberculosis were found in the sputum. He was placed under treatment and soon began to improve. His cough and expectoration disappeared and his temperature receded to normal. The improvement continued, and at the end of six months he had gained twenty-two pounds, weighing more than he had before in his life. Cough and expectoration had entirely disappeared. He had no rise of temperature and no

¹ Read before the American Climatological Association, Washington, D. C.

signs of lung trouble. I examined this patient about a year after he was dismissed from treatment and at this time there were no physical signs of any disease in his lungs. I have had



SQUARE CHEST PACK. (2.)

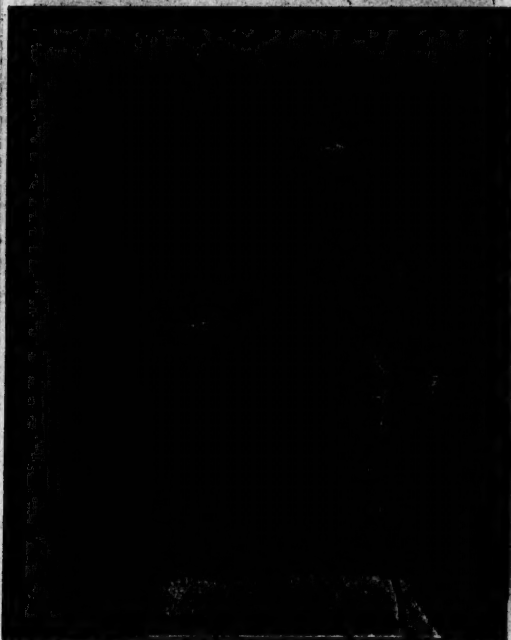
Fig. 14.

opportunity to see this patient at frequent intervals for nearly four years. He has had no rise of temperature, no cough or expectoration, and no physical signs of the disease up to the present writing. He is at present a prominent lawyer in the city of Denver, and enjoying a successful professional career.

Case III.—Mrs. B. F. J., from Alabama, gives following history: Grandfather, grandmother, brother and husband died of tuberculosis of the lungs, the last six months before the patient came to Colorado, August 2, 1899. Patient has never been strong, but felt well until twelve years ago, when she had an attack of typhoid fever. Has not been as well since. During the past three years has had more or less trouble with the stomach and bowels, indigestion, etc. In the fall of 1898 her physician discovered that she had tuberculosis of the lungs. Has had some cough, some expectoration, and some slight rise of temperature in the afternoon for some months previous to coming to the Colorado Sanitarium. When the patient entered the Sanitarium she was very thin, pale, anemic, and had distressing symptoms of indigestion in her stomach and bowels; had great difficulty in finding anything she could eat, and her food always gave her more or less distress; poor circulation, cold extremities, some cough, some expectoration, temperature 99 to 99.8° F. in afternoon. Physical examination of the chest showed partial consolidation of the apex of the right lung. The bacillus of tuberculosis was found in the sputum. Patient was placed under treatment, and for the

first few weeks did not seem to make very much improvement. Stomach and bowels continued to give her very great trouble. By careful regulation of the diet and other treatment this difficulty was overcome. Patient remained under treatment at the Sanitarium for about four months. After the first few weeks of her sojourn she began to improve, and from this time on until she left the Sanitarium her improvement was gradual and quite rapid. When she stopped treatment November 28th, she had no cough, no expectoration, no rise of temperature. Physical examination of the chest showed that the lung was almost entirely clear. She had gained twenty-eight pounds in flesh. She remained in the city after leaving the Sanitarium and was under my professional care. At the end of another two months patient had gained forty-four pounds in flesh, had rosy cheeks, hard, strong muscles, and no signs whatever of any disease of the lungs, stomach or bowels. At the time of present writing patient is still enjoying good health and still holding to the flesh she gained. She weighs more than ever before in her life and is strong and healthy in every respect.

Case IV.—Mr. H., from Pennsylvania, aged twenty-four years, came to the Sanitarium October 18, 1899. Patient gives no history of any hereditary trouble in family. One brother died

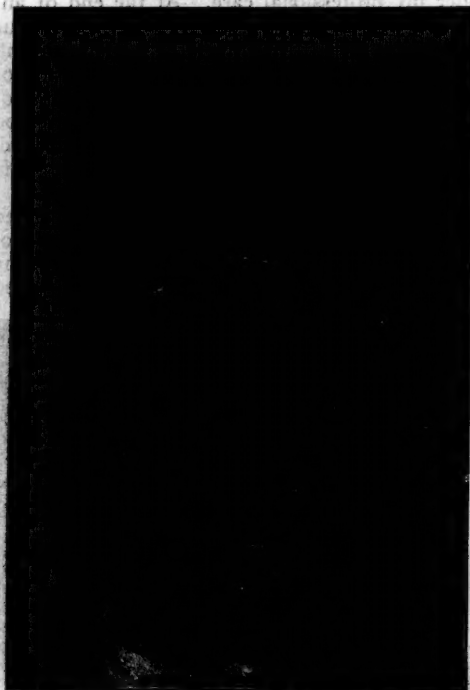


SQUARE CHEST PACK COMPLETED. (Front View.)

Fig. 15.

of diabetes. Two years previous to his coming to the Sanitarium he spit up blood, a mouthful at a time, and at different time had slight hemorrhage. Some four or five weeks before coming to the Sanitarium his physician made an

examination of the sputum and found the bacillus of tuberculosis present. When patient entered the Sanitarium he had cough, expectorated considerably, pain in his chest, an evening rise of temperature, night-sweats, loss of flesh, troubled with shortness of breath, cold extremities, and weak action of the heart. Was thin and unable to walk more than a short distance without fatigue. On physical examination of chest there was found dulness on percussion, and diminished respiratory murmur in upper part of right lung, and the same signs but to less degree in the upper part of left lung. Patient also had more or less trouble with stomach and bowels with symptoms of indigestion. Patient remained from October 18th to February 21st.



SQUARE CHEST PACK COMPLETED. (Rear View.)

Fig. 16.

When he left the institution, had gained eighteen pounds in flesh, had no expectoration, the cough was practically all gone, and the temperature was normal. Physical examination of the chest showed some slight physical signs of thickening of lung tissue in the upper part of right lung.

Case V.—Miss E., aged twenty-two years. Family history negative. Came to the Sanitarium October, 1898. Four years previous to her entering the Colorado Sanitarium patient had slight hemorrhages at different times for about one week. Blood came up while coughing. She thought she completely recovered from this and enjoyed very good health for a time. About one year before coming to the Sanitarium she coughed up little blood again.

In July, 1898, she had quite severe hemorrhage from lungs, and has not been well since. Three years ago she took a bad cold and has had severe cough since. When the patient entered the Sanitarium she had cough, expectoration, flushed face, and was pale about nose and eyes. Pulse sitting was 92. Temperature at noon and in the afternoon 99.4° to 99.8° F. Patient was weak, not being able to walk far without becoming tired. Had lost considerable flesh. She also had more or less trouble with stomach and bowels, with poor circulation. Physical examination of chest showed dulness on percussion in apex of right lung. Diminished vesicular murmur, and subcrepitant râles over the same area. She also had some trouble with her throat which was tuberculous in character. She remained under treatment until March 11, 1899. When she stopped treatment she had gained very much in flesh and strength, had scarcely any cough, no expectoration, no rise of temperature, and was feeling well and strong.

Case VI.—Mr. F. R. Park, from Georgia. Aged twenty-three years. Came to the Sanitarium December 17, 1897. Family history, negative. Patient's health began to fail years previous, during which time he suffered from indigestion while at school. Had severe cough which lasted four or five months. When he came to the Sanitarium had cough, expectoration, temperature of 99° to 99.5° F. in the afternoon. Symptoms of indigestion with poor circulation. Patient was very thin, anemic and weak. Physical examination of chest showed marked dulness on percussion and bronchial breathing over apex of the right lung. Was placed under treatment and soon began to improve. Continued treatment until May 10th, at which time he had gained fourteen pounds in weight, and had no cough, or expectoration, and physical examination of chest showed that the partial consolidation of right lung which was present at the beginning of treatment had almost entirely disappeared. I have watched this case now for nearly three years. The patient is an active business man in Colorado and is enjoying the best of health at the present time, which is nearly three years since he was treated for tuberculosis of the lungs.

Case VII.—Mr. M., aged twenty years, from Wisconsin, came to the Colorado Sanitarium in July, 1896. Patient's mother had some lung trouble the nature of which is not known. The young man had usually enjoyed good health previous to the beginning of his lung trouble, which was in the spring of 1896. His trouble began with night-sweats, cough, expectoration, and he also lost considerable flesh. A few months after the appearance of these symptoms patient came to the Colorado Sanitarium and placed himself under treatment. When he came he was pale, anemic, and weak, with an evening rise of temperature. Physical examination of chest showed considerable thickening and consolidation of tissue in upper part of left lung.

Examination of sputum showed presence of bacillus tuberculosis. As soon as placed under treatment he began to recover and made rapid improvement. Temperature was soon reduced to normal. Cough, expectoration, and night-sweats disappeared. In a few weeks he had gained forty-five pounds in weight and proportionately in strength. During part of the time he gained one pound per day. He looked well, ruddy appearance, large physique, well filled out, and gave every indication of robust health. Something like a year after the patient was dismissed from the Sanitarium I had an opportunity to examine his chest again. There were no signs, whatever, of the disease. I have had an opportunity to watch this case now for nearly four years. The young man has been engaged in heavy manual work the greater part of the time and is enjoying the best of health.

Case VIII.—Mrs. B., from Kansas, came to the Colorado Sanitarium October 10, 1899. Patient gave history of consumption on father's side of family, also had one sister who died of pulmonary tuberculosis. Patient had the grip in 1898 which left her with cough. She had coughed and expectorated since, and her general symptoms grew worse. When she came to the Sanitarium her symptoms were as follows: Appearance very poor, tongue heavily coated, white and dry. Digestion very much impaired, much constipated, high raging fever in the afternoon and temperature of 103° F. or above. Pulse 120 or more sitting. Patient very thin and very weak, respiration very rapid, dyspnea, and at times her general condition indicated approaching collapse. She was very anemic, and very weak. Could walk but a few steps at a time. Physical examination of chest gave evidence of large cavity in lower part of left lung and physical signs of consolidation throughout the remaining part of left lung. Also crepitant and subcrepitant râles over greater part of left lung. Also some physical signs of consolidation in upper part of right lung. This patient was placed on rest cure, and given such food as could be easily digested. Was given cool wet hand-rubs, cool mitten-friction in the evening with cool compress on chest, changed every fifteen minutes, and kept up from one hour to one hour and a half, and followed by cold moist pack on chest which was worn through the night. This treatment was given every afternoon and evening while the temperature was highest. In the morning while temperature was lower, the patient was given hot and cold to the spine, with dry friction and oil-rub. Patient also used nebulizer containing creosote and other antiseptics. Bowels were kept open, and patient was requested to drink freely of water. The results of this treatment were most gratifying in this case of advanced pulmonary tuberculosis. It should be observed that the temperature of this case was 103° F. or more in the afternoon and had been so for some time before the patient came to the institution. After one day's treat-

ment the temperature dropped from 103° to 101.3° F. The next day or two there was a fraction of a degree rise, but this again receded and gradually declined. After one week's treatment the highest temperature was 100° F. in the afternoon. The patient only remained under treatment about two weeks, but the improvement was very marked in every way when she left the Sanitarium, her temperature was about 100° F. in the afternoon. The appetite was much improved, breathing very much slower and deeper. General condition much improved and with her friends she took an overland trip in an open wagon to her friends in Kansas. This patient might have been improved more had she remained under treatment longer. She discontinued treatment contrary to advice. This last case represents a class of cases that come to the institution in the advanced stage of the disease. These cases as a rule are not cured, but many are benefited, and the results of treatment as illustrated in this last case show clearly the beneficial effect of hydropathic treatment when properly selected and rightly applied, even in the advance stages of pulmonary tuberculosis.

Summary.—The essential features of rational hydrotherapy as applied to pulmonary tuberculosis may be summarized as follows:

1. Both general and local cold applications to the skin.
2. Careful graduation of the application both as regards its intensity, duration and frequency, by modifying the temperature and mode of procedure, keeping always within the limits of the patient's ability to react. The best methods for accomplishing this are dry friction, wet hand-rubbing, wet mitten-friction, cold towel-rubbing, wet sheet-rubbing, half-baths, the general douche.
3. The application of compresses, hot and cold, as a means of relieving pain and controlling the local blood-supply, especially the use of the chest-pack to relieve cough and to aid the tissues in combating the disease and the employment of the hot sponge-bath and various other hydropathic means for relieving special symptoms.

I regard a dry elevated region a condition essential for the best results in the majority of cases. In observations upon some hundreds of cases during the last twenty-five years, I have seen excellent results at altitudes ranging from 1500 to 5500 feet. The constant applying of stimuli of various sorts upon the skin, such as sunlight, variations of temperature, etc., are an important means of maintaining vascular tone in the internal parts of the body and in stimulating metabolism and general functional activity. By hydrotherapy we are able to exaggerate or diminish the impressions sent inward from the skin and thus to control nearly all the bodily functions to a marvelous degree.

In fairness I must say that I have seen good results in cases in which hydropathic treatment has not been systematically carried out. I must also record the fact that results have unmistakably

been far more uniform, more permanent, when hydriatric treatment has been employed in connection with climatic change. For a number of years back I have been in the habit of sending cases of this class to the Colorado Sanitarium at Boulder, Colo., or the Guadalajara Sanitarium at Guadalajara, Mexico, where patients have the advantage of thorough hydriatric treatment and the results have certainly been excellent. Not all patients have recovered, by any means, and it is very difficult to say in any case that an absolute cure has been effected.

In advanced cases in which the breaking down of lung tissue has advanced to the formation of large cavities and when large areas are involved the prospects for a radical cure by hydriatric methods is of course small, nevertheless in even these unpromising cases a marvelous degree of improvement is often secured and the patient's life prolonged for many months and even years.

ABSORPTION, MOTILITY AND DIGESTIVE POWER OF THE STOMACH.¹

By A. E. AUSTIN, A.M., M.D.,
OF BOSTON.

It is evident that undue importance is being attached to the secretory power of the stomach. To the determinations of HCl great interest has been given, perhaps on account of the fact that this was one of the first and most tangible substances in stomach-contents which could be determined, and pages have been written on anacidity and hyperacidity of the stomach. While allowing to this a moderate share of the importance which has been given it, we must bear in mind that secretion is not by any means the only function of the stomach. It is a well-known fact that in anacidity there always exists a compensation between the amount of HCl lacking and volatile acids, chiefly lactic, acetic, etc., which, with the aid of pepsin, can to a large extent digest the food which enters the stomach.

The discomfort arising from this condition appears to be due not to failure of digestion, but to the gases which are formed coincidentally with the volatile acids. Boas has called attention to the presence of sulfureted hydrogen, while others have also called attention to hydrogen, CO₂, etc. Von Noorden, who has performed a number of experiments in this connection, in his "Pathologie des Stoffwechsels" (pp. 241-247), expresses the following view: "If HCl is wanting in the gastric juice, its loss is not seriously felt, because, if the contents are promptly poured into the duodenum, their further digestion is completed by the pancreatic juice, and examination of the feces shows no greater loss of nitrogenous material than as though the HCl were present in normal amounts. Hyperacidity, or, rather, hyperchlorhydria, has rather more serious results on account of the attacks of pain which are produced by this highly acrid secretion. The

digestion, however, is no more seriously affected than under the former conditions, because this highly acid solution, promptly neutralized by the alkaline secretions of the intestines, undergoes perfect digestion, with no exceptional loss of nitrogenous material."

Lack of motility, or, as it is sometimes termed, gastric insufficiency, on the contrary, causes vastly more serious disturbances of digestion and, consequently, of nutrition. This, resulting as it may either from a narrowing of the pyloric orifice or a lack of tonicity of the muscular coats of the stomach, allows the contents of the stomach to remain a much longer period than is customary in normal digestion, thereby causing fermentations which produce intensely acid material, gases of various kinds, and often even toxins, giving rise to all the symptoms associated with tetanus. In the more recent literature pertaining to this subject, numerous instances are given in which acute dilatation, which is only an increased degree of this condition, has produced death. As a rule, absorption and motile power of the stomach keep pace with its secretory powers. We have an instance, however, in the case of cancer of the stomach, in which, while the secretory power suffers most seriously, even to the absence of both pepsin and HCl, the motive power is increased to such a point that often exaggerated movements of the stomach are perceptible through the abdominal wall. The residue which is found in the stomach at the withdrawal of a test-meal is dependent upon three factors, *vis.*, the patency of the pylorus, motility, and absorption. In addition to this, we must also add a fourth factor, the activity of osmosis. It is well known that a constant osmosis takes place by which certain substances, such as sugar, peptone, etc., are absorbed by the stomach, while, on the contrary, there is a constant exudation of water into the stomach from the blood. This has no relation to the secretion of pepsin, HCl or rennin, but depends rather upon the nature of the substance taken as food. For instance, in these experiments it has been frequently noticed that the amount of fluid withdrawn from the stomach is much less after pure albuminous substance has been given, than when the albumin and carbohydrate have been given in the form of an Ewald meal. It can also be demonstrated that the water which is given in a test-meal is never withdrawn in its entirety, nor is it probable that the water found is identically the same as that given. We have an analogous circumstance in the increased urine resulting from drinking large quantities of water, when the water in this increased urine is evidently not the same as that which is drunk. Hence we may have different degrees of dilution of stomach-contents, according to the activity of osmosis. This renders quantitative determinations, of course, only relative. Another factor is our inability to be sure that all the contents are withdrawn from the stomach. Further, the removal through the py-

¹ From the Chemical Laboratory of Tufts College Medical School.

lorus may be hastened or retarded and absorption of the digestive products more or less rapid. If, as some investigators insist, the pylorus is not open until digestion is complete, it is an easy task to test the residue before the contents leave the stomach for the amount of albumose peptone left unabsorbed. According to other views, there may be a constant discharge of the liquid contents into the duodenum, solid particles remaining behind. Yet no digestion is ever complete, either artificial or stomachic, all the albumin may be in solution, there may be no albumin coagulable by heat, but we never fail to find some acid albumin. In contents which were withdrawn sixteen hours after food was taken, some acid albumin was found.

There exists a certain confusion between the term absorption and motility. Bouveret says, "If, after an Ewald meal, more than 40 cc. are withdrawn, it shows a slow absorption." Since water is so little or not at all absorbed, and the greater flow is always in the direction of the interior of the stomach, in experiments where the pylorus is closed by ligatures it is difficult to understand what the amount of fluid has to do with the absorption. It seems evident that this factor (the amount) must always be a test of motility and not of absorption. The residual albumose peptone may, however, be taken as a measure of this absorption, representing as it does that portion remaining in the stomach after an hour's interval. Our object now is with a certain definite amount of albuminous food to establish a normal residual albumose peptone one hour after the meal.

The rapid method for estimating this was given by the writer in the *Boston Medical and Surgical Journal*, Vol. CXLII, No. 10. At first an effort was made to prove connection between gastric insufficiency and poor absorption. In two cases stomach contents were removed fifteen hours after eating. There was found in one .017 gram albumose peptone; in another as the result of four removals there were found respectively .184, .011, 0 and .200 gram. Then 37 cases were examined, some once, some several times. These were all given a test-meal and the contents were withdrawn at the usual interval of an hour. In every case, the residual albumose peptone was determined and expressed in grams. In all, the upper limit was taken as representing the least favorable absorption, since only that part unabsorbed is being estimated. When two or more examinations were made, the results were averaged and the average also given. The results of these 37 examinations appear in the following table:

	Average.			
Touley .....	.204	.534	.....	.414
O'Tole .....	.185	.090	.051	.108
Levine .....	.256	.478	.104	.279
Roland .....	.660	.412	.....	.357
Neilson .....	.380	.150	.....	.265
Slatterly .....	.096	.300	.154	.227
Montague .....	.575	.736	.....	.665
J. M. ....	.015	.056	.....	.035

	Average.			
Album .....	.365	.503	1.330	.890
Severo .....	.158	.175	.....	.166
Dentz .....	.847	.318	.....	.582
D. W. ....	.155	.258	.100	.431
E. B.	1.346	.387	1.420	1.560
Butler .....	.078	.660	.....	.369
J. G. ....	.540	.126	.320	.....
Mary M. ....	.235	.092	.033	.310
O'Neil .....	.208	.336	.....	.272
Cleaves .....	.250	.437	.117	.....
A. J. ....	.150	.197	.171	.230
F. S. ....	.312	.333	.....	.322
J. K. ....	.300	.091	.....	.195
H. M. ....	.270	.220	.....	.245
Mary M. ....	.202	.180	.245	.....
F. Smith .....	.547	.115	.....	.331
Lattimer .....	.540	.180	.....	.360
Lackay	1.250	.....	.....	.....
Lockhard .....	.108	.240	.....	.219
Peterson .....	.280	.....	.....	.....
Harrington .....	.080	.....	.....	.....
J. Smith .....	.185	.....	.....	.....
Hogarty .....	.238	.....	.....	.....
Mahoney .....	.511	.....	.....	.....
Sweeny .....	.089	.....	.....	.....
Murphy .....	.576	.....	.....	.....
M. B. ....	.175	.....	.....	.....
Oliver .....	.078	.....	.....	.....
M. M. ....	.128	.....	.....	.....

To determine a standard, if we arrange these results in order of the largest amounts of residual albumose peptone found, we have over 1 gram in 3 cases; between .8 and 1 gram in 1 case; between .6 and .8 gram in 3 cases; between .4 and .6 gram in 9 cases; between .2 and .4 gram in 12 cases; under .2 gram in 9 cases. From this we learn that .6 gram seems to be the limit beyond which absorption is delayed and impaired. It may be objected that in the lower limit, the results may as well be due to impaired digestion as improved absorption, but we learn in what follows that the digestive power of the gastric juice was always determined so that a decision between these two conditions can always be reached. If we take the average of the results where two or more examinations were made, we find that there is over 1 gram albumose peptone in 2 cases; between .8 and 1 gram in no case; between .6 and .8 gram in 2 cases; between .4 and .6 gram in 4 cases; between .2 and .4 gram in 17 cases; under .2 in 12 cases.

When we arrange the results in this way, we find that the greater number contained less than .4 gram of albumose peptone in the stomach at time of removal. As these cases were taken from the service of Dr. R. F. Chase, of the Boston Dispensary, to whom the writer's thanks are due, and were those in which mild gastric disturbances were complained of, they probably furnish a fairly satisfactory series from which to obtain results for future reference.

If, when increased quantity of fluid is withdrawn from the stomach, the albumose peptone remains the same, then the percentage must be lowered. If, on the contrary, an increased fluid content is accompanied by relative as well as absolute increase of residual peptone, then lack of absorption and impaired motility are associated. In urine, when we have largely increased amount

of fluid the percentage of solids is also diminished. Upon reference to our data, we find frequently associated increase of liquid and an increased percentage of albumose peptone. We have, for instance, the case of Lackay, with 250 cc. contents and 4.5 per m. of albumose peptone; J. G., with 102 cc. contents and 5.3 per m.; R. B., with 100 cc. contents and 6.6 per m.; E. B., with 132 cc. contents and 10.2 per m.; Album, with 95 cc. contents and 5.2 per m.; also the same with 200 cc. contents with 6.6 per m.; B. M., with 160 cc. contents and 4.6 per m. We have here unquestionably an association of diminished motility and impaired absorption. On the contrary, in two cases this law fails to apply—in Roland, with 200 and 125 cc. and 3.3 per m. in both, and H. L., with 145 cc. and 3.3 per m. These show that poor absorption is not always associated with lack of motility, but frequently is. With reference to the amount of HCl of those cases in which more than .600 gram albumose peptone was found, two had a lessened amount of HCl, four were normal, and one increased. In fact, there is no reason to believe that both conditions should be similarly affected, except that both are dependent upon nervous influence, and the result of shock, worry, etc., may be that of diminishing the flow of HCl, as well as retarding the absorption of the stomach.

Digestive power is necessarily dependent upon the secretory functions of the stomach, demanding at the same time pepsin and HCl or organic acids. But as the HCl is always determined we have a means of keeping a check upon the amount of pepsin present. If the HCl is normal, then the failure of digestive power must depend upon the lack of pepsin. The condition is rarely present, because pepsin is one of the most persistent ingredients of gastric juice. We must not lose sight of the fact that an excess of HCl may have an inhibitory action upon the action of pepsin. Experience shows that this is even more important than diminished HCl, for the latter deficiency can be made up by the presence of the volatile acids. The method for testing the digestive power of the stomach was given in the article in the *Boston Medical and Surgical Journal* to which reference has already been made. The factor used, so many parts per m., means that each gastric juice after digesting a requisite amount of albumin, contains so many parts of albumose peptone per m., less the amount it contained when withdrawn from the stomach; or, in other words, it was able to produce from native albumin so many parts per m. of its volume of albumose peptone. These results, with their average when more than one estimation was made, can be found in the following list:

	Average.			
Touley	6.6	2	..	4.3
O'Tole	4.3	2.6	4.5	3.8
Levine	1.	2.	1.2	1.4
Roland	1.	2.3	..	1.6
Neilson	4.3	7.	..	5.6
Slattery	3.5	2.6	.76 4.	2.7

	Average.			
Montague	4.6	3.	..	3.8
J. M.	3.	1.	..	2.
Album	2.	.6	1.	3.3
Severo	5.3	4.5	..	4.9
Dentz	2.6	1.3	..	1.9
D. W.	1.6	3.6	4.	4.4
E. B.	2.6	2.	2.6 3.3 4.	2.9
Butler	1.3	2.	..	1.6
J. G.	5.3	5.6	5.3	5.4
Mary M.	3.6	2.3	5.	4.5
O'Neil	3.	.6	..	4.
Cleaves	3.2	3.3	..	3.2
A. J.	1.8	2.	6.6 7.3 7.3	5.
F. S.	5.3	3.3	..	4.3
J. K.	12.	7.3	..	9.6
H. M.	5.3	1.3	..	3.3
Mary M.	2.	1.2	2.3	1.8
Smith	4.6	4.6	..	4.6
Lattimer	1.3	.6	.8	.9
Lackay	5.	..	..	..
Lockhard	1.3	2.	..	1.6
Peterson	3.	..	..	..
Harrington	5.	..	..	..
J. S.	5.5	..	..	..
Hogarty	3.3	..	..	..
Mahoney	2.	..	..	..
Sweeny	2.6	..	..	..
M. B.	5.3	..	..	..
Oliver	2.6	..	..	..
M. M.	8.	..	..	..

Upon reference to these results, we find that when the largest digestive power in each case is taken we have a degree of digestion greater than 7 parts per m. in 5 cases; between 5 and 7 parts per m. in 10 cases; between 3 and 5 parts per m. in 10 cases; between 1 and 3 parts per m. in 10 cases; under 1 part per m. in 1 case. Judging from the most numerous in each division, we are led to believe that this power of the secretive action of the stomach may vary anywhere from 1 to 7 parts per m. Above and below these figures, few cases occur. Upon referring to the average, where two or more examinations were made, we find that this power was 7 and over per m. in 2 cases; 5 to 7 per m. in 7 cases; 3 to 5 per m. in 13 cases; 1 to 3 per m. in 12 cases; below 1 per m. in 2 cases. Here the results are so narrowed that 1 to 5 parts per m. seem to include the majority of those cases examined. When the digestive power is a weak one and HCl is normal, there must be a lack of pepsin. There is an excellent illustration of this in the case of O'Neil, who had a total of HCl of 2.5 and 2.6 per m., with free acid, yet has only a digestive power of .6 and .3 of 1 part per m. Montague is another, with a total HCl of 2.3 per m. and a digestive power of only .3 per m. Unquestionably, we may also have cases where the amount of HCl is enough to inhibit the action of the pepsin. Album has an HCl of 3.9 per m., and a digestive power of only 1 per m. Cleaves, also, has an HCl of 3.1 per m., and a digestive power of only .3 per m. We have also the possibility that the amount of pepsin is limited and, if distributed through a large amount of fluid, the 10 cc. which were always taken for these tests would contain much less pepsin than a gastric content of lessened amount. We can see an illustration of this in the case of Levine,

with 145 cc. contents and 2 per m. digestive power; Roland, with 200 cc. contents and 1 per m. digestive power; Montague, with 160 cc. contents and .3 per m. digestive power; and Album, with 200 cc. contents and 1 per m. digestive power. Upon consideration of all the facts presented by these determinations, we may be allowed to arrive at the following conclusions: (1) No examination of the stomach is complete without testing its absorptive power. (2) The method herein employed, until a better one is devised, gives us as much information as any method extant. (3) Presumably, retardation of absorption does not occur with simple hypotony or gastric insufficiency without dilatation. This may account for absorption being sometimes deficient and sometimes normal, with gastric insufficiency. (4) In order to differentiate between a good absorption or a poor digestive power, the latter must always be tested.

THE NATURE TREATMENT OF TUBERCULOSIS.

By R. O. BEARD, M.D.,
OF MINNEAPOLIS, MINN.;

PROFESSOR OF PHYSIOLOGY IN THE UNIVERSITY OF MINNESOTA.

THERE is no question of more dominant interest to-day to the profession of medicine, to the student of sanitary science or to the general public—which depends upon both for its enlightenment in matters of disease—than the question of the possible prevention and cure of tuberculosis and, especially, of tuberculosis in its pulmonary form. The importance of this question is growing with the public recognition of the prevalence and fatality of the white man's plague. Its solution is coming to be in the popular, as it has long been in the professional, mind a matter of urgent demand.

Perhaps nothing has contributed more to this awakening of the public consciousness to its own dangers from tuberculosis than the failure and the consequent disappointment which followed, some years ago, upon the introduction of Koch's tuberculin. "It is better to fail than never to have any striving that is worth being called a failure," for it is so often true that the mistakes of to-day are the stepping-stones to achievement on the morrow. Koch did more for the future control of tuberculosis than to discover the tubercle bacillus. He did more than to put into the hands of the medical world an agent of diagnosis which has proved and is destined to prove of inestimable value in the discovery of diseases in men and animals. If he overshot the therapeutic mark, he pointed to a target of treatment which men have since sighted with greater success. If he did not find a curative agent, he suggested a scientific method of dealing with disease in its use. If he did not solve the problem the solution of which we are still seeking and toward the solution of which so many other abortive attempts have been directed, he stimulated profes-

sional inquiry and aroused popular consciousness to the possibilities of relief.

In the world of science, as in that of commercial values, demand is the constant stimulus to supply. When human society learns the economic value of human life and appreciates its waste—in a single direction and by a single cause—to the proportion of ten per cent. of its total, it will not be long before it writes an equation in which the third factor to be found by the sanitarian will be that of cure. And that we are several steps nearer to the finding of that required factor is largely due to the generally discredited labors, as well as to the earlier accredited discoveries, of Robert Koch.

The indications of the growth of this popular professional demand are everywhere manifest. They are seen in the enactment of ordinances in our great cities prohibiting expectoration in public conveyances and, in some notable instances, requiring the report of cases of pulmonary consumption to the health authorities. They are manifested in the publication of popular tracts and official directions concerning the avoidance of contagion and the destruction of diseased sputum. They are seen in the actual agitation, in a great commonwealth, of popular sentiment for the quarantine of a whole State against tuberculous pilgrims in search of climatic relief. They are seen in the organization, in several States of the Union, of societies for the prevention of tuberculosis. They are read in the formula of the objects of these bodies, well illustrated by the constitution of the Illinois Society, which is "to educate public opinion in the doctrine of the contagiousness of the disease, to instruct the public in practical methods of avoidance and prevention, to visit the consumptive poor and supply them with the necessary materials with which to protect themselves against the disease, to furnish them with hospital treatment, to cooperate with boards of health in preventive measures, to advocate the enactment of preventive laws and to establish branch societies throughout the State."

They are seen in the establishment of sanatoria and hospitals for the exclusive care of consumptives in certain of our big cities. They are shown in the special precautions which are being taken for the isolation of tuberculous patients among the inmates of insane asylums, schools for defectives, and penal institutions.

They have been evidenced within the past few months, by the assembly at the city of Berlin of an International Tuberculosis Congress, which was conducted with success—a success which is none the less important because it is rather popular than professional in its results. That success lies, not in the discovery or announcement of new facts or principles, but in the organization of agencies by which these known facts and principles may be applied. It means, as an operative influence, no especial stimulus to that patient effort of the pathologist, the clinician and the sanitary scientist which still goes on unceas-

ingly, but a stimulus to the practical employment of those means and measures which are the birth of the pathologic and sanitary science of to-day.

And, finally, these indications of a popular and professional demand for a realization of results are seen in the proposed or accomplished dedication of large tracts of land and forest and lake, as great public parks for the sake, among other desirable ends, of their preventive and remedial possibilities as great national or provincial health resorts.

All of these activities have been inspired primarily by the study of the etiology and course of the disease which has been going on, since the day of Koch's initial discovery, in the laboratories of pathology and bacteriology throughout the scientific world. This study of the warfare which is waged between the human tissue-cells and the bacillus tuberculosis has taught us and is teaching us, more and more forcibly, the practical lesson that the task of the public sanitarian and the physician is largely one of prevention, and that cure—a secondary and short-lived possibility in the course of the disease—is best to be accomplished by extending the principles and methods of prevention to the assistance of the tissue-cells in their life and death conflict with the disease. It means, on the one hand, to make the conditions of human life as favorable as may be for the integrity of the tissue-cells and as uncomfortable as possible for the tubercle bacillus. It means, on the other hand, to make the self-same conditions of human life which will sustain that integrity operative for its restoration under attack. It means something in the way of hope for the future, when the statistics of human health in the large cities, even of the Northwest, show a phenomenally low death-rate, and when we learn from the lips of Minnesota bacteriologists that, in this region, their germ cultures have a provoking tendency to die out. In the adjustment of these two tendencies to each other we may obtain demonstration of the possibilities which hygienic measures afford for the maintenance or recovery of resistance upon the part of the tissue-cells to disease.

Strange, is it not, how intuitive is the quality of ideas which spring into action before the reason for their existence can be discovered! Modern science reequips the old hypothetic notion of the *vis medicatrix naturae* with the dignity of a demonstrable fact; and that fact gives us the impetus to the most hopeful movement of modern medicine toward what may be fitly termed the Nature treatment of tuberculosis.

There is nothing new in the isolated facts which enter into this, nevertheless, novel conception. No new principles were announced at the International Congress of Berlin, and yet the consummate value of the deliberations of that Congress lay in the recognition of a new system of treatment into which old facts fit and in the elaboration of methods by which that system can be practically employed. With a good understanding of these old facts we have been slow—

as a child piecing his newly-learned letters into words—to compose them into the lesson that they teach. Long have many isolated cases of cure pointed out to us the advantages of some element of climate in the treatment of this prevalent disease. Long have we sought in differences of altitude and temperature and moisture for the key to these effects, while empiricism has dictated to us the advantages of this or that locality as an agency of cure. Out of their fortunate experiences, physicians have learned to extol the virtues of the Adirondacks of New York, of the Blue Mountains of North Carolina, of the forests of Ontario and New Hampshire, of the high altitudes of Colorado and New Mexico, of the dry, sand-swept plains of Arizona where decomposition is merely desiccation, of the warm, dry air of Texas and California, and even of the cold, dry air of Minnesota.

But only now, as the International Tuberculosis Congress of Berlin declared, are we learning that but two prime factors enter into the qualities of all these favorable regions, but two elements are essential in their curative or preventive qualities. These factors are purity and dryness of atmosphere, in whatever latitude, at whatever altitude, on plain or mountain, in forest or on ranch. The conclusion is a simple but potent one. It means a new emphasis upon the pernicious influences of the overcrowded quarters of our great cities. It means the necessity for a new development of suburban dwellings for the poor. It means the essential isolation of consumptives who pollute the atmosphere their neighbors breathe. It means a desirable reversion from urban to rural life. It means the establishment of sanatoria which shall afford sufficient cubic space for the diminished cubic area of tuberculous lungs. It means—it should mean—the segregation of lands in large tracts where these ideal qualities of atmosphere exist, where these qualities can be preserved and where they can be utilized for the conservation of the health of those who are well and the restoration of those who are diseased. It is not remarkable that the cities of California and Texas are beginning to blacklist consumptives. It is time they did. A quarantine against tuberculosis in our towns should be as effective as a quarantine against Yellow Jack.

The aggregation of disease-germs is dangerous anywhere, even though the atmospheric qualities of a given locality may be unfavorable to their development. Mass the tubercle bacillus anywhere and it will, sooner or later, work its destroying way. Disease-germs should be subjected to atmospheric dilution. Give them sufficient cubic area of pure, dry air and their most effective cultures will die out as they do in the laboratories of Minnesota. Put the tuberculous patient into the vastnesses of the pine forests of our Northwest and his cultures of the bacillus may not thrive.

New York has learned the lesson, and learned it expensively late, in the reservation of the

Adirondacks. Ontario has learned it in the segregation of the Algonquin Park. Minnesota is trying to put that lesson into practice by the enterprising initiative of her medical profession, by the public-spirited aid of her associated women's organizations, by the assistance of her Nature-loving friends in other States—in her effort to secure the creation of a great National Park in her pine forests and among the multitudinous lakes of the North. The health idea inspired and stands back of this project. To make this last great tract of native pine forest a national health resort, a natural sanatorium, is the primary and the most urgent argument for its segregation.

Other arguments obtain. In fact, no single public project carries with it more variant and cogent reasons for its success. Forest reservation is an economic necessity. The ruthless ax of the lumberman and the fire which follows in his destroying footsteps have almost completely removed from the face of this continent its vast areas of native trees. Forest culture has demonstrated its paying quality in European states. An object lesson in this science is needed in America. The forests of these Minnesota reservations can be made more profitable by tree culture than by agriculture.

The conservation of the Mississippi water supply in the matter of quality and distribution is a motive. The great natural sponge which the soil of the native forests forms acts at one and the same time as a vast filter and a vast reservoir. The artificial reservoirs which the Government has constructed at the headwaters of the Mississippi at an expenditure of millions of money, are less effective by far in the control of freshets and the distribution of the waters of the great valley than this native forest sponge.

The preservation of the indigenous game of this game-stocked region is a secondary reason. No more delightful sportsman's paradise can anywhere be found than its woods and lakes afford.

The salvation to posterity of this great park is another and a nobler motive. The lover of Nature needs but to see the beauties of these primeval pines and of these great inland lakes to feel that their final destruction would be a permanent loss to the higher life of the people.

But of more momentous consequence, of greater economic weight is the argument for the segregation of this area for sanitary purposes. Its opportunities are in therapeutic demand. The value of human life, not merely to the individual who possesses it, but to the State, far outreaches any measure of material wealth. The Nature treatment of tuberculosis in this available region will repay the nation in men more than it can gain in timber by its destruction or in navigation by its saving.

The sanitarians of this continent may exercise a large influence in determining the balance of public opinion in favor of the creation of the Minnesota Park. The American Public Health

Association has already recorded its approval of the project. It should lend the weight of the personal influence of its members to the accomplishment of this end.

But while the question of climate, the quality of pure dry air, to be attained best by the preservation of such vast tracts of favorably conditioned land, is a large one in the Nature treatment of tuberculosis, it is not the only significant one.

The medical world is indebted to Dr. Walther of Nordrach, in the Black Forest of Germany, for an object lesson in this Nature treatment, for a demonstration of the results of a judicious combination, with favorable climate, of other important hygienic conditions.

The principle of as nearly physiologic rest as may be attained is of major importance. The influence of this factor in the treatment of tuberculosis was of common observation in the confinement of patients undergoing treatment, some years ago, with Koch's lymph. Hyperpyrexia is an invariable indication for complete repose. After its subsidence, the principle of carefully graduated exercise is of moment. By this method, the powers of the patient are systematically developed until they will endure sustained labor or excursions of from five miles to ten miles on foot.

And, finally, the principle of forced feeding, as to quantity, with due respect to the physiologic intervals of digestive repose, is a factor in the method. The gradual but material increase of food supplies is well endured, even in advanced cases and appears to go far in advancing the nutritive conditions of the tissues. If recent investigations into the relations of the leucocytes as primary agents in food absorption and elaboration give us a safe guide to follow, we may be better able to understand how forced feeding enhances their phagocytic power.

This, in a few words, covers the essential principles of what is fitly termed—the Nature treatment of tuberculosis. If, severally, its facts are not new, in their association they are of added weight and larger hope for the control of this most prevalent and destructive of the diseases of civilization.

MEDICAL PROGRESS.

Mortality from Diabetes Mellitus.—The 202 deaths from diabetes which occurred in the city of New York during 1899 have been classified by H. Stern (*Med. Rec.*, Nov. 17, 1900) to show the sex, age, nationality, complications, etc. The sex seemed to have no influence and the deaths were distributed about equally over the different seasons. The greatest mortality occurred between the fifty-fifth and sixty-fifth years, and diminished rapidly toward the end and beginning of life. Fifty-seven were born in Germany, 51 in United States and 37 in Ireland. It was es-

timated that at least 54 or 25 per cent. were Jews and 51 were Irish. Mental exertion, characteristic modes of living, gluttony, alcoholic intoxication, etc., are given as predisposing factors in causing diabetes more often in these races, but the potent influence is believed to be the breeding in and in to which the Jewish and Irish races still adhere. It has been supposed that diabetes mellitus is especially frequent among the well-to-do, but these statistics seem to indicate that it occurs in greater frequency among the working people among whom gluttony and leisure hours are exceptions. Coma is given as the direct cause of death in 60 cases, but undoubtedly pure diabetic coma occurred in a much smaller number. Gangrene was the most frequent complication and appeared in the foot or leg in 32 cases. Other frequent complications were septicemia, phthisis, nephritis, and cardiac dilatation.

Suprarenal Extract.—Another favorable report is made upon the action of the suprarenal extract in diseases of the respiratory tract. P. Floersheim (*Med. Rec.*, Nov. 17, 1900) has used it in rhinitis, acute tracheobronchitis, chronic bronchitis, congestion and edema of the lungs, hemoptysis and pulmonary tuberculosis. Its action in diseases of the upper tubes is more certain and the sensations of dryness, tightness and rawness are relieved, but acute bronchitis when treated from the onset was usually cured in twenty-four hours. The beneficial action obtained in congestion and edema of the lungs was undoubtedly due, not only to the constricting action upon the blood-vessels, but also to the stimulating effect upon the heart. Apparently good results were obtained in cases of hemoptyses, but it is, of course, speculative how much benefit was due to this drug. The powder is administered in three-grain capsules, chewed without water and swallowed in a few minutes. When the doses are sufficiently large the action is apparent in from two to fifteen minutes. In some cases the action of the drug is permanent, but in the majority of cases it lasts only from ten minutes to an hour and must be frequently repeated.

Meralgia Paresthetica.—This syndrome is the result of some functional or pathological change in the external cutaneous nerve, characterized by sensory disturbances of the anteroexternal surface of the thigh. Pain and paresthesia may, however, go beyond the zone of distribution of that nerve, but in the majority of cases only one branch is affected. A. Gordon (*N. Y. Med. Jour.*, Nov. 17, 1900) reports a case in which the condition came on after typhoid, and being peculiar from the fact that both the anterior and posterior branches were effected and at least one branch of the anterior crural. It also presented a phenomenon called intermittent lameness and described by Charcot as "claudication intermittente." Charcot's cases were characterized by severe pain and numbness of both legs when

an attempt was made to walk, due to an arteriosclerosis which prevented proper nutrition during extra exertion. This case, however, showed no arterial changes and the pain was explained by the supposition that the psoas muscle when contracting aggravated the pains induced by the neuritis in the nerve lying on its surface. Electricity, massage, and potassium iodide are recommended, but are of very little service. The removal of a large portion of the external cutaneous nerve is the only rational and permanently successful mode of treating the genuine cases of meralgia paresthetica.

Serum Reaction in Fetal and Infantile Typhoid.

—In a recent paper by Dr. John L. Morse (*Journ. Boston Society of Med. Sciences*, Oct. 16, 1900) this very interesting subject has received further consideration. The conclusions enunciated agree in the main with the facts already presented in scattered articles. From the article the following points may be gathered: The serum reaction occurs in infantile as in adult typhoid. As to whether or not it occurs in fetal typhoid the author has not been able to find any data bearing on this side of the question. The agglutinating power may or may not be present in the blood of infants born of women with typhoid. If present it is transmitted through the placenta. The author conceives the possibility of the formation of the agglutinating principle within the child in response to toxic principle transmitted from the typhoid mother. The agglutinating principle may pass through the normal placenta; part of it, however, is arrested in the passage. The conditions determining its transmission appear to depend on the strength of the agglutinating power of the maternal blood, and the length of time during which the placenta is exposed to it. Other observations show that it may be transmitted through the milk, sometimes appearing as soon as twenty-four hours. In the maternal blood in such cases the reaction is strongest; the agglutinating power of the milk is stronger than that of the nursing. This weakening is due to resistance to passage of the principle by the mammary gland and the nursing's digestive tract. The chief factors governing transmission appear to be the intensity of the agglutinating capacity in the maternal blood and some unknown condition in the digestive tract.

Pelvic Symphysitis.—A. Noto (*La Riforma Medica*, Nos. 177-179, 1900) records the history of two cases occurring in his own practice, which, with the thirteen other cases recorded since 1778, constitute all that is known of this rare disease. Case I.: A woman, aged thirty-eight years, whose previous history as to heredity, menstruation, and five previous pregnancies, was normal; two days after the delivery of her last child had a rise of temperature preceded by a violent chill; these phenomena appeared regularly for nine days without intermission and without discover-

able cause; death occurred on the tenth day; autopsy revealed nothing peculiar except the presence of pus at the symphysis pubis; the cartilage was eroded, exposing the bare bone. Case II.: A woman, aged thirty-nine years, who had had nine previous normal pregnancies and whose previous personal history was negative, three days after the birth of last child began to have chills and fever, which continued daily unabated, the lochia becoming by the eighth day extremely offensive; for this she sought hospital treatment; on her admission, examination was negative except that over the mons veneris a tumefaction was noted with all the manifestations of an acute inflammatory process, the pain being quite prominent; after incising, cleansing and draining this tumor over the symphysis, all of the acute symptoms subsided and the patient made an uninterrupted recovery. The author's conclusions are as follows: During pregnancy the affection comes on without cause, but is preceded by the relaxation of the joints involved in the gravid state; this physiological state may, if aggravated, become pathological; then standing is painful; the disease is usually caused by traumata during labor, when there is a disproportion between the pelvis and the fetal head; the active cause is the presence of a pyogenic germ within the joint giving rise to a general septicemia or pyemia; the symptoms generally appear a few days after labor, and are characterized by chills, fever, and general rapid prostration with but little external manifestation of the involvement of the symphysis pubis joint, until the process has become more advanced; then swelling and all the symptoms of an acute local joint trouble are manifest; usually as a result of this the cartilages are eroded and the bone surfaces bare. Occasionally the tumefaction becomes less circumscribed and a diffuse infiltration occurs, involving the abdominal muscle-sheaths or extending down into the labia, pain radiating toward the thighs or to the nates. The prognosis should be guarded, for the course of the disease is slow as regards recovery, and relief is to be had only by prompt, efficient, and thorough surgical intervention. Absolute rest must be insisted upon during a somewhat tardy convalescence. Supporting tonic treatment is also indicated.

Pulmonary Emphysema and Nasal Occlusion.—L. Bullara (*La Riforma Medica*, Nos. 183-184, 1900) deduces the following conclusions from experiments upon dogs. Complete occlusion of the nares produces emphysema in a few days and changes the respiratory rhythm, the frequency of respiration being decreased and the depth of respirations being increased. A smaller quantity of air enters the lungs when the animals breathe only through the mouth than when the nose is used in respiration; hence it is fair to conclude that when nares were occluded the dogs were forced to take deeper inspirations in order to compensate for the diminished volume of air entering the lungs; pulmonary emphysema, there-

fore, depends upon the increased volume of respired air, a purely mechanical result of occlusion of the nares.

Functions of Cerebellum.—R. Gatta (*La Riforma Medica*, Nos. 181-182, 1900) as a result of extended experimental observation on animals concludes that (1) the clinical syndrome of cerebellar disease is rendered multiform by the phenomena of compression and irritation of the contiguous and distant parts of the brain (the pons, medulla, cranial nerves and cerebrum); (2) the alterations in the cerebellum and the clinical and experimental phenomena are in proportion to the extent of the lesion; (3) complete destruction of the cerebellum in animals and similar lesions in clinical cases produce ataxia, asthenia, and atony; these effects remain for a long time in the experimental cases, although the functions return to a certain extent in some cases; (4) the pathological experimental processes, resulting from rapid intoxication, may occasion disease lasting months and years; (5) clinical observations are in accord with the results obtained experimentally.

Face Presentations.—O. Schaeffer (*Centralbl. f. Gynaekol.*, Oct. 27, 1900) concludes that, as a rule, when the parturient canal is normal the forceps are usually contraindicated, both as a correcting and as a traction instrument in difficult face and brow presentations. Occasionally when the head is small and the occiput short or when the head is freely movable upon the trunk, they may in skilled hands and normal path of delivery serve to save a child otherwise lost. Force should never be applied. When the head is less movable, fixed manual correction after the method of Rose or Volland should be tried. The same observations apply to anterofrontal presentations with advance of the brow even in normal canals when mere bettering in the presentation is at stake. Finally, attention is directed to the fact that forcible traction along with the local mechanical extension and squeezing may set up long and severe nervous reflex phenomena.

Retrenchment of Lipomatous Abdominal Wall.—J. B. Bullitt (*Annals of Surgery*, Nov., 1900) reports a case of very large umbilical hernia in a fat person whose abdominal wall was four inches thick in fat alone. He approached the neck of the sac through a horizontal incision about three inches above it. After the usual steps for radical cure had been taken, the incision was extended to each flank where it was joined by another lower down. The interval between the two comprised several pounds of fat which were ablated. The wound was drawn together by buried continuous catgut, deep interrupted silkworm-gut retention, and, finally, catgut buttonhole sutures. Primary union in a scar twenty-two inches long and four inches deep, with cure of the hernia, resulted. The pendulousness of the abdomen was largely removed, although a still greater segment could safely have been taken.

THERAPEUTIC HINTS.

Electricity to Remove Hair.—Léo Leistikow uses the platinum-iridium needle with Behrend's needle-holder, in which contact is broken by pressure on a stylet. The anode is placed in one hand of the patient and the needle introduced into the follicle in the direction of the hair, a current of 2 to 3 milliampères is kept on for 20 to 30 seconds, the needle withdrawn, and the hair pulled out with epilating forceps. Warm, moist compresses diminish the inflammatory reaction. While introducing and removing the needle, the current must be broken, or it causes pain and involuntary muscular contractions. The needle must be carried along the hair to the base of the follicle, or the hair will return. The procedure is very easy and effective.—*Monats. für prak. Dermatol.*

Fungous Diseases of the Skin.—The radical cure, writes P. G. Unna, of the true saprophytes of the corneous layer, as in erythrasma, and pityriasis versicolor, and of the hair, as piedra, leptothrix, and trichorrhexis nodosa, by the ordinary fungicides, such as mercury, sulphur, chrysarobin, tar, and iodine, is extraordinarily difficult. Mechanical methods (shaving, exfoliation, epilation, and pitch-plasters) have been used with moderate success. After much experimentation the author has found a chemical method at once mild and effective. He paints the affected area once a day for 3 or 4 days with:

R Paraform
Etheraa. 2.0 (gr. xxx)
Collod. flex.16.0 (ʒss)

In generalized pityriasis versicolor, bands the width of the hand are successively painted and after 2 or 3 days rubbed with vaseline or zinc ointment until the scales are removed. By this means the whole body is cleaned in about 15 days. As an aid in the treatment Unna gives a daily wash with a superfatted soap containing 2 per cent. of formaldehyd.—*Monats. für praktische Dermatol.*

Ether for Sebaceous Cysts.—Emile Sergent uses Vidal's method of injecting ether until the cyst is distended. The needle being left *in situ*, some of the ether with dissolved sebaceous matter runs out. Then more ether is injected, and the process repeated until fluctuation is apparent, and a brownish crust appears around the needle entrance. The contents may then be readily expressed by opening up the tract with a stylet, and the empty sac removed through a comparatively small opening. The operation is bloodless, painless, without danger, and it leaves no disfiguring cicatrix. A small fibrous cyst with very little sebaceous matter is not likely to be benefited.—*La Presse médicale.*

Asthma.—Nothing is so likely to induce an attack, say Fowler and Godlee, as retiring before digestion is finished, therefore the principal meal should be taken at midday. Alcoholic drinks

and coffee can rarely be taken safely. To ward off attacks, iodide of potassium, gram 0.3 (gr. v) t. i. d., increased rapidly to gram 4.0 (ʒi) a day, has been of most service, and to this may be added the ethereal tincture of lobelia, gram 1.3 (ʒi xx), or extract of stramonium, gram 0.015 (gr. ¼). Arsenic is worthy of trial, but is of less value. Some patients never retire without burning niter paper, made by saturating blotting-paper with a 1-in-16 solution of potassium nitrate, or smoking a cigarette containing stramonium or some such remedy. As regards locality, every asthmatic is a law to himself; most find that in the smoky atmosphere of a large town they are more free from attacks than elsewhere. If chronic bronchitis is the cause, a warm, dry climate, avoidance of exposure to cold and damp, and cod-liver oil are indicated. When the nervous factor predominates, with slight catarrh or emphysema, a high altitude is usually preferred. Inhalation under pressure of a hot, dense vapor, as at Mont Doré, is often of benefit. When a gouty factor is present, colchicum and alkalies are indicated, and mercury and saline purgatives in constipation and functional derangements of the liver. In some persons these latter are certain precursors of an attack. Morbid conditions of the nasopharynx require local or climatic treatment.—*Diseases of the Lungs.*

Exophthalmic Goiter.—M. A. Starr recommends rest, careful diet, and glycerophosphate of soda, gram 1.0 (gr. xv) three or four times a day, to counteract the poison in the blood. Mercury inunctions to the neck, especially of the red iodide, tincture of iodine, gram 0.3 (ʒi v) t. i. d., and belladonna, are sometimes of use. Iron and arsenic may be administered as tonics. Injections of iodine and other irritants are dangerous, and digitalis, strophanthus, and counterirritation are of little use. When pressure symptoms arise from the enlarged thyroid, partial extirpation must be performed.

Scabies.—To avoid the irritating action of the ordinary remedies for itch in children, Léon Perrin rubs the whole body at night with

R Camphor oil of chamom. 100.0 (ʒiijss)
Ointment of liq. styr. . . . 20.0 (ʒv)
Balsam of Peru. 5.0 (grs. lxxv)

The next morning wash with soap and hot water, and powder the skin with starch. If the skin is a little inflamed apply zinc-oxide ointment. The first night the itching ceases, and in eight or ten days the cure is complete. To avoid recurrence all the clothes and bedding must be washed with disinfectants.—*Journal de Médecine de Bordeaux.*

Insomnia of Alcoholism.—For patients suffering with acute alcoholic delirium or alcoholic mania, Dr. D. R. Brown recommends:

R Chloralamid 1.0 (gr. xv)
Hyoscin hydrobrom. 0.0006 (gr. 1/100)

—*Trans. Seventh International Congress on the Abuse of Alcohol.*

THE MEDICAL NEWS.

A WEEKLY JOURNAL
OF MEDICAL SCIENCE.

COMMUNICATIONS in the form of Scientific Articles, Clinical Memoranda, Correspondence, or News Items of interest to the profession are invited from all parts of the world. Reprints to the number of 50 of original articles contributed exclusively to the MEDICAL NEWS will be furnished without charge if the request therefor accompanies the manuscript. When necessary to elucidate the text illustrations will be engraved from drawings or photographs furnished by the author. Manuscript should be typewritten.

SMITH ELY JELLIFFE, A.M., M.D., Ph.D., Editor,
No. 111 FIFTH AVENUE, NEW YORK.

Subscription Price, including postage in U. S. and Canada.

PER ANNUM IN ADVANCE	\$4 00
SINGLE COPIES	10
WITH THE AMERICAN JOURNAL OF THE MEDICAL SCIENCES, PER ANNUM	7 50

Subscriptions may begin at any date. The safest mode of remittance is by bank check or postal money order, drawn to the order of the undersigned. When neither is accessible, remittances may be made, at the risk of the publishers, by forwarding in registered letters.

LEA BROTHERS & CO.,
No. 111 FIFTH AVENUE (corner of 18th St.), NEW YORK,
AND NOS. 706, 708, & 710 SANSON ST., PHILADELPHIA.

SATURDAY, NOVEMBER 24, 1900.

NEW YORK AND ITS WATER SUPPLY.

IN a municipality of the size and importance of New York City it is incumbent upon the authorities to provide for its citizens a good water supply. It is not enough that the water should be free from *materies morbi* capable of producing disease, but such water should be palatable, free from taste and odor and sufficient to meet the demands of modern civilization.

For the past three weeks the water of the Borough of Manhattan has not been up to its usual excellent standard. Different sections of the city have been affected in different manner, but there has been an almost universal complaint of turbid water with a decidedly disagreeable "fishy" or "oily" taste. The weekly reports of the Health Department have not shown that there are any unusual contaminations that might render the water unsafe to the consumer and there are no reports of illness that are directly traceable to it. The question seems to resolve itself into purely a "matter of taste."

The subject of tastes and odors in water supplies is one that has engaged the attention of many investigators. Early observers ascribed disagreeable tastes to the presence of products of decomposition, but of recent years it has been recognized that the distasteful elements are due

not to the dead, but to the living organisms that grow in most water supplies. Certain minute plants and animals growing in exceedingly large numbers are the offenders. Among these certain diatoms, as well as some of the other algae, and a few of the lower animals develop in their protoplasm, as processes of their life activity, certain oils, which are closely related to many aromatic compounds of higher plants.

The MEDICAL NEWS has had some examinations made to determine, if possible, the causes of the present unpleasant conditions of the local water supply. The evidence submitted shows that there are no unusual factors in the present problem. Algae similar to those which caused the unpleasant conditions of the Brooklyn water supply two summers ago have been found in numbers far exceeding the usual ratio. The most reprehensible of these are *Asterionella formosa*, *Melosira varians*, *Coeleospherium* and *Anabaena*. *Melosira* and *Coeleospherium* are especially abundant. Both of these last named organisms are known to develop odors and taste, the former, oily, the latter, sweet and grassy. *Asterionella* is usually credited with a distinctly fishy and disagreeable odor. The causes, therefore, of the present conditions are probably these algae, which in varying proportions give the peculiar character to the water. The unusually warm fall may account in some measure for their excessive development, or, perhaps, the diminished amount of water stored in the reservoir. Opening up of mains may be in part responsible. Cold weather will probably cause their diminution, if not their disappearance.

Boiling the water will be of little or no service. The oils will be thereby only more thoroughly commingled with the water. Filtration may remove a few of the organisms, but not dispose of their oils. The only thing to do is to wait. Time is necessary to determine the causes of the unusual development of these organisms and give the key to prophylaxis. It may further be asserted that there is nothing harmful in the water supply, although a draught of cold water does not now possess its old-time associations.

TUBERCULOSIS IN TAILORS.

THE fact that tuberculosis is extremely prevalent among tailors, especially the cutters, has long been well known and of great interest to clinicians. The sedentary nature of the occupation and the crowding which as a rule prevails in the

workrooms have usually been held responsible for this unusual prevalence. Recent observations, however, seem to discredit in part such etiologic factors in this connection. It has often enough been shown that individuals following other trades, but living under equally crowded conditions, may show comparatively a much greater insusceptibility. Observations of this kind have led many to believe that the high tribute paid to tuberculosis is referable to other factors than solely to overcrowding.

Repeated investigations of the local conditions lead to the conclusions that direct contamination by infected sputum constitutes the most menacing factor in its spread.

In support of this conclusion attention may be called to the fact that in all tailoring establishments, if much work is going on, there is a fine but noticeable dust present in the workroom consisting chiefly of the minute particles of the woolen clippings. The clippings themselves are thrown into barrels, there to remain for a few days until these are full, when they are thrown into bins or large receptacles placed not far away. They are left here, as a rule, for a few weeks until sold and taken away to be woven into what is known as "shoddy." This in turn is sold to dealers handling inferior grades of cloth or goes back to the original merchant as a second-rate article. Before it is resold, however, it is dyed. If this dyeing process is germicidal existing tubercle bacilli in the "shoddy" will be exterminated and the cutters who handle it will not be subjected to infection. If, however, the dyeing process does not kill the organisms, there is thus afforded a means of infection, if the original scraps were primarily contaminated. That this is the case seems undoubted, for the following reason: In tailors' shops, as in most other places, cuspidores are provided, the employers and managers particularly requesting that they be used; as a matter of fact they are largely neglected, while the barrels and the contents of the same receive the expectorations. When it is remembered that in these places as in all large factories there are usually some tuberculous employees, generally, although not always, in the early and undetected stages of the disease, a clear chain of evidence is established, provided that the dyeing of the goods does not destroy the tubercle bacilli.

Even if the organisms are thus rendered innocuous, there still remains a certain and evident means of infection in the contaminated contents

of the barrels and bins, since, the sputum being dry, the emptying of the clippings into the bin itself or into intermediate receptacles permits of a thorough dissemination throughout the room. Again, the removal from the bins at a later date necessitates a still further shaking up and the liberation of untold numbers of minute particles of infected wool. The same barrels after being emptied are used and used again, and it is evident that, no matter what precautions for health have been taken in the surroundings of the workroom, they must still be dens of infection as long as surreptitious expectoration into the barrels takes place, as it undeniably does. The men disobey the requests of their superiors and are not cognizant of the gravity of their action.

It would seem that this matter is a suitable one for the interference of our vigilant Board of Health. The remedy, of course, lies in the proper use of cuspidores, but in view of human frailty and the close proximity of convenient barrels we must rely upon proper sterilization of the clippings. If this is impossible for commercial reasons, then it would seem that they should be destroyed.

PRIMARY SPLENOMEGALY.

UNDER various names—primary splenomegaly, primary epithelioma, and endothelioma of the spleen—has been described a most remarkable disease characterized clinically by a slow, progressive enlargement of the spleen, beginning in childhood, followed by an increase in the size of the liver. Concomitant with these changes will be found a simple anemia.

Since the thesis of Gaucher nearly two decades ago the condition has passed almost unnoticed. Until the appearance of a recent paper by Bovaird (*American Jour. Med. Sci.*, Oct., 1900) no systematic clinical and pathological study has been made by the half dozen or less observers who have written on this subject. From his own careful studies of two cases in children taken in connection with those already published, this author has been able to give us a fairly definite clinical picture which may serve in the recognition of this interesting condition.

From the facts at hand it is clear that the etiological factors are far from being clearly understood. The affection begins insidiously without fever; attention is first fixed upon the increasing splenic tumor and simple anemia. Later the liver becomes enlarged, and in some cases as

those reported by Bovaird slight enlargement of the superficial lymph-nodes may occur. Certainly if any conclusions are to be based upon the cases already reported the prognosis is to be regarded as unfavorable, although the course of the disease may cover many years.

The general resemblance of such cases to those of splenic anemia has been noted. The age of the patients, or better, the age of the patients at the beginning of the splenic enlargement; the persistent progressive character of the malady; the chronicity of the affection; the enlargement of the liver; the huge size of the spleen; the familiar distribution—all these are considerations of the highest diagnostic significance in the differentiation of the affection from the so-called splenic anemia of adults. Some cases grouped under the latter head may possibly have been primary splenomegaly; post-mortem investigation alone will be found necessary to make clear the real nature of the trouble in many instances.

Few subjects in pathology possess the same real interest which centers around the microscopical findings in the organs removed from these cases. The extensive endothelial hyperplasia observed in the spleen and to a less extent in the lymph-nodes and liver has already brought forward some discussion. All the writers thus far, with the exception of Bovaird, have either regarded the lesion epithelioma, carcinoma or endothelioma. But if we accept the definition of a tumor as an autonomous growth as laid down by Thoma then we cannot, as Bovaird very rightly points out, regard these cases of endothelial splenomegaly as instances of tumor growth. The evidence, moreover, scarcely admits the interpretation as metastases of the proliferative changes in the lymph-nodes and liver.

It is not at all unlikely that further investigation may show the infectious origin of these cases.

ECHOES AND NEWS.

NEW YORK.

Why Gouverneur Hospital is Slow in Building.—There has been considerable criticism because of the delay in opening the new Gouverneur Hospital, the construction of which began five years ago. It has been explained that the law requires that all the furniture for the hospital shall be made in the State's prisons and the prisons have been slow in fulfilling their contracts.

Typhoid in Upper New York.—Press dispatches report that typhoid is common in a very severe

form throughout the north end of Manhattan Borough, as well as the Bronx. Uptown hospitals continue to take care of more than their usual quota of cases, but the mortality is not high. Thus far the MEDICAL NEWS has been unable to substantiate the press reports.

New York Pathological Society.—In the death of Dr. Lewis Albert Sayre the New York Pathological Society loses the last of the members who brought it into existence. The first meeting of the Society was held in Dr. Sayre's office on June 14, 1844, Drs. George A. Peters and Middleton Goldsmith participating in the formation of the new society. Dr. Sayre kept his interest in the society alive, occasionally attending its meetings, until the end of his professional activity. It is with a special sense of loss that the Society sees fade from its list of active members this illustrious name, enrolled at its first meeting when "the oldest pathological society in the world," as he was fond of saying, was created.

The New York Pathological Society now records upon its minutes the death of Dr. Lewis Albert Sayre, and adopts the following resolution:

Resolved, That the sympathy of the New York Pathological Society be extended to the family of Dr. Sayre in their bereavement, and that the above testimonial be published in the current medical periodicals.

(Signed) W. P. NORTHRUP, M.D.,
JAMES EWING, M.D.,
E. K. DUNHAM, M.D.

Charitable Bequests.—By the will of Abraham Wolff the following institutions were benefited: Hebrew Benevolent and Orphan Asylum Society of New York, \$5000; the Home for Aged and Infirm Hebrews of the City of New York, \$5000; Mount Sinai Hospital, \$1000; the Montefiore Home for Chronic Invalids, \$1000; the Society for Preventing Cruelty to Children, \$1000; the Colored Orphan Asylum, \$1000; the Hebrew Technical Institute of New York City, \$2500; the Educational Alliance of New York, \$3000; the German Hospital of New York, \$1000; the Hebrew Infant Asylum, \$1000; the Children's Aid Society, \$1000; the New York Cancer Hospital, \$5000; the United Hebrew Charities of New York City, \$10,000; the Edenkoben Hospital in Germany, \$2500.

Tenements and Tuberculosis.—The Tenement-House Commission held its first public hearing in New York City at the United Charities building, Twenty-second Street and Fourth Avenue, last Tuesday. The subject under discussion was "The Relation of Tuberculosis to the Tenement-House Problem." It was the unanimous sentiment of the speakers that with the proper kind of tenement-houses, houses which would make it possible for the tenants to get plenty of sunlight and air and to keep clean, and with the proper supervision and care by the City of those afflicted with the disease, tuberculosis could event-

ually be entirely stamped out. Dr. John H. Pryor of Buffalo, who was chairman of a committee to investigate tenement-house evils in that city, said that in Manhattan alone there were constantly 20,000 persons suffering from tuberculosis of the lungs in its various stages. In his opinion the majority of tenement-house dwellers had some form of tuberculosis. One reason for its great prevalence was that no proper care was taken of the victims. There were accommodations for 1000, whereas 20,000 had the disease. The result was that the infection constantly spread. He said it was the only disease which did not receive proper care.

"The disease is curable," Dr. Pryor declared. "People die of it because they are poor. That's putting it bluntly, but it's true. If they had the means to get away in the early stages of the disease and get proper treatment they would get well. The public has come to look on the disease as hereditary. This is not true. There are but two cases on record where it has been transmitted in this way. The tendency may be transmitted, the inability to resist it readily, but not the disease. Six thousand persons die yearly in New York of tuberculosis of the lungs. This could be checked very readily if officials had the power to change conditions in the tenements and put the afflicted people where they could be cared for." Dr. Pryor favored making it compulsory that every occupant of a tenement have 600 cubic feet of air, that no tenement be allowed to be built on a 25-foot lot and that the people should be educated as to how to prevent infection.

Dr. Herman M. Biggs, of the Health Department, presented maps of various tenement house blocks showing the prevalence of tuberculosis in certain infected and insanitary houses. He said that the death-rate from tuberculosis had been decreasing owing to the improvement in general sanitary conditions, the improvements required in tenement houses and the inspection and corrective measures of the Health Department. He declared, however, that the department did not have enough inspectors. He thought there should be a corps of at least forty medical inspectors, whose work should be exclusively devoted to tuberculosis. He also urged that it was an imposition to increase the cost of tenements by compelling increased measures against fire when fire did not cost more than forty lives a year. He believed it to be a serious error to restrict the height of tenements. "The problem before which all else gives way," he said, "is to furnish cheap homes, that shall have light, air and ventilation. The chance of death by fire is infinitely less than by disease. If the proper measures are taken I have no doubt that the disease can promptly be stamped out." Dr. Biggs also urged that all walls in tenement houses be painted instead of papered, and that no carpets be allowed in the halls. When asked if he meant this to apply to apartment houses he said that it would be better if it did.

Manager Fränkel of the United Hebrew Charities Association said that 3 per cent. of the applicants for aid to his Society had tuberculosis, contracted after their arrival in the United States. He thought it came from overcrowding, because the same percentage exists in Philadelphia where there were no tenements. There, he said, the poor Jews herded in three-story houses just as they do here in the tenements.

Dr. Anna Daniel of the New York Infirmary for Women and Children was of the opinion that the manufacture of clothing in tenements was a grave source of infection. She knew many victims who worked on clothing up to the day before they died. The garments were often used for bedding, and they went out thoroughly infected with the bacilli of tuberculosis. She was opposed to high tenements, as were also Dr. Alfred Meyer and Dr. S. A. Knopf. They thought high tenements made the lower stories damp and dark and unfit for human beings to live in. None of those testifying believed that tenements should be permitted on 25-foot lots.

Craig Colony.—A pathologist with a salary of \$2500 per year has just been allowed the Craig Colony for Epileptics at Sonyea, N. Y.

Dr. Markoe Celebrates His Golden Wedding.—On November 20, 1900, Dr. T. M. Markoe, Emeritus Professor of Surgery at the College of Physicians and Surgeons (Columbia), received a number of friends in honor of the fiftieth anniversary of his marriage. There was also present a committee from a musical club that has met uninterruptedly at Dr. Markoe's home for more than half a century. Both of Dr. Markoe's sons are, like their father, prominent members of the medical profession of New York City.

University and Bellevue Hospital Medical College Bulletin.—At the November meeting of the New York University Medical Society, a report of the Committee on a Bulletin appointed at the October meeting was accepted and referred to the Faculty for approval. This report planned for the establishment of a Bulletin to be issued four times annually, to be called *The New York University Bulletin of the Medical Sciences* and to be edited by a Committee of the Society under the business management to be designated by the university. The contents of the Bulletin are to be: (1) Original articles directly contributed to the Bulletin. (2) Abstracts or *extenso* reproductions of articles originally published elsewhere. (3) Short communications made at the meetings of the Medical Society. (4) Brief minutes of those meetings. (5) Reports on methods devised or tested in the departments of the medical college. (6) A reference list of publications by those connected with the medical college.

PHILADELPHIA.

Sun Porches at St. Joseph's Hospital.—New sun porches at this hospital have just been completed.

They are in the rear of the hospital and are 200 feet in length. Arrangements for heating make them available during the winter.

Experiments in Sewer Gas Destruction.—A station has been erected at Roxborough for the purpose of making experimental tests in the destruction of sewer gas. The results of the tests thus far are reported to be satisfactory.

Reception to Dr. Osler.—The Faculty Club of the University of Pennsylvania entertained Dr. William Osler of Baltimore at dinner Thursday evening, November 15th. The dinner was followed by an informal reception at the clubhouse.

Philadelphia Hospital Ambulances at the Disposal of the Police.—By order of Dr. Shoemaker the ambulances of the almshouse will in the future be sent for cases heretofore taken by patrol wagons. This, it is stated in the order, will not only save the making of long trips by the patrol wagons, but is also a more humane and proper way of conveying people to the hospital.

Increase in Death-Rate.—The low mortality of the past week has been ended by an increase of 70 in the number of deaths for the week ending November 17th. Diphtheria is not abating, 160 cases and 21 deaths being reported. In Camden there were 119 cases, the greatest number in the history of that city. The spread of the disease there is charged to the non-report of cases which has thus prevented the necessary quarantining.

Dr. S. Weir Mitchell Honored by Fellow-Townsmen.—Dr. Mitchell was the guest of honor at a reception given at the Penn Club Saturday evening, November 17th. A feature of the reception was that the gathering of 500 persons was largely made up of non-medical men. There were present many distinguished representatives of the pulpit, the bench and bar, and the business community. When a young man Dr. Mitchell spoke to Oliver Wendell Holmes about his desire to take up writing as a profession. He was advised by the "Autocrat of the Breakfast Table" to stick to medicine, make a success of that and then later in life return to the field of letters. Dr. Mitchell accepted with gracious modesty the congratulations which were bestowed upon him for achievements in the two professions which he had hesitated between years before.

University of Pennsylvania Alumni.—The Philadelphia Alumni Society of the Medical Department of the University of Pennsylvania held a symposium, Saturday, November 17th, at the Bourse. Dr. J. Madison Taylor, President of the Society, officiated as chairman, and the evening was delightfully spent with song and story. A banquet was served previous to the literary entertainment. The speakers all described the changes that had been introduced in teaching their several branches of medicine and surgery. Provost Charles C. Harrison was well received, as was also Dr. Egard F. Smith, Vice Provost. Dr. William Draper Lewis spoke for the depart-

ment of law; Dean John Marshall, for the department of medicine; Dr. Essig, for the department of dentistry; Dean John W. Adams, for the department of veterinary medicine; Stewart Culin, for the department of archeology, and B. Franklin Stahl, Corresponding Secretary, who spoke for the General Alumni Society. Among the physicians present were Dr. De Forrest Willard, Dr. Roland G. Carter, Dr. Alexander C. Abbott, Dr. Mordecai Price, Dr. J. P. Crozer, all of Philadelphia; Dr. Henry Beates, President of the State Medical Examining Board; Dr. J. L. Forwood, of Chester; Dr. H. C. Whitcomb, of Norristown; Dr. Guy Hinsdale and Dr. Frank Elder of Philadelphia.

Typhoid in Pennsylvania.—Typhoid fever has become epidemic in Cementon, a town on the Lehigh River not far from Allentown. Of 200 families composing the population, there are one or more cases in 118 families. Of 22 families, all members from the father down to the youngest child are prostrated by the disease, which has now been raging two weeks. There have been several deaths during this time and the condition of many is reported to be critical. The cause of the epidemic is believed to rest with the town's water supply which has been taken from the Lehigh River. From the evidence already secured it would seem that the river is a stream of contagion distributing its poison over a wide area and seriously threatening other towns below Cementon which also get their water supply therefrom. The populous towns of Catasauqua, Bethlehem, Allentown and Easton are all on the Lehigh, and there is said to be typhoid in these towns also.

School Physicians Organize.—The visiting physicians of the schools of the city are at variance as regards the advisability of asking remuneration for their services. At the last of several meetings held for consideration of the subject a permanent organization was decided upon. Although there was much opposition, a committee was finally appointed to ask Councils for an appropriation to pay each physician a salary of \$50 per month. The majority of the women physicians antagonized this action. It is feared by some of the 200 visiting physicians that efforts to secure salaries will lead to the abolition of the visiting staff. The late move of the Board of Education in this direction was stopped before application was made to the City Councils.

The Registration of Tuberculosis.—The meeting of the County Medical Society, November 14th, was devoted to a discussion of this subject. Dr. Hermann M. Biggs, of the New York Department of Health, was the guest of the Society and read the paper of the evening. Dr. Biggs discussed in an impartial manner the good and bad points of registration and gave the results of his twelve years' experience in the sanitary problems involved. Statistics have been quoted so often that the people, the Legislatures, the

sanitary authorities, and even the medical profession are becoming indifferent to the vast expenditure of money, suffering, and death. Dr. Biggs maintains that notification does not involve any publicity that did not previously exist. The increasing knowledge among the laity regarding tuberculosis will subject the consumptive to as great hardships as will notification. Measures differing essentially from those enforced in the acute contagious diseases should be adopted. Tuberculosis should be declared to be an infectious and communicable disease, and treated alone or in a class including typhoid fever and perhaps some other diseases. To properly deal with tuberculosis, sanitary supervision in every municipality should comprise: (1) Compulsory notification; (2) suitable plans for the education of the people; (3) a complete and efficient scheme for the disinfection or renovation of premises vacated by death or removal; (4) a hospital equipment; (5) the power of compulsory removal and retention of patients in a hospital when necessary, in the same manner as is practiced in the contagious diseases. Dr. Biggs closed his admirable address by stating that there had been a reduction of more than 35 per cent. in the mortality from the tuberculous diseases in New York City since 1886, and that it is his belief that a complete and efficient scheme can be adopted which will further reduce that mortality at least one-third within the next five years.

In the discussion of the subject City Bacteriologist Abbott stated that compulsory notification would engender no publicity, the purpose being to acquaint a central power with the location of the foci of disease in the city. Dr. Meigs opposes registration for two reasons: First, it is not successfully carried out, and, secondly, even if it were in every case, there would not be an adequate return for the work involved. He believes there is a difference in the results of precautions against the disease as claimed by laboratory workers and Boards of Health and the practical results seen by physicians. Dr. Flick, in the interests of the Free Hospital for Consumptives, has visited the homes of several hundred poor consumptives where communication of the disease is unavoidable because of the surroundings. Long continuance of the disease in these quarters makes it almost as virulent as smallpox. Dr. Ott stated that if compulsory notification were in force those physicians who adhere strictly to it would lose patients because of their known actions. This would cause evasion of the law and is an obstacle to be overcome.

The general sentiment of the Society was strongly in favor of registration, and a resolution was passed asking the Bureau of Health to class tuberculosis as a transmissible, notifiable disease and to take measures for its prevention.

CHICAGO.

Chicago Drainage Canal.—This great channel has not only purified the drinking-water supply

of the city, but it has also given purer water than before to every city along the Illinois and Mississippi Rivers as far as St. Louis. The water in the canal, in the Desplaines River, and in two other rivers is purer from one end to the other to-day than it was a year ago before the canal was opened.

Chicago College for Nurses.—A college bearing this name has been founded, with the intention of training women in all duties of skilled nurses, without requiring two years of bondage in hospitals and training schools.

Board of Education.—In view of the excellent results of medical inspection of schools last year, Dr. W. S. Christopher, a member of the Board, wants the inspection of both public and parochial schools placed under the care of the Health Department.

Maurice Porter Children's Hospital.—This hospital, founded by Mrs. Julia F. Porter in 1882, began with eight beds and for twelve years was supported entirely by Mrs. Porter. Mrs. Porter later decided to extend the work beyond her individual charity and found a large free hospital for children suited to the needs of this great city. The hospital is absolutely free; there are no pay patients whatsoever. It undoubtedly will be greatly enlarged and its usefulness extended. The expenses of the hospital are met in part by an endowment of \$3000 a year by Mrs. Porter, two endowed beds, and several annual contributions. The rest must be raised by private subscription and by an associate membership.

Augustana Hospital.—During the years 1884-1900 7051 patients were treated, representing 18 nationalities, 19 creeds, and 22 States. The total indebtedness is \$49,436.90, incurred when the location was purchased, and when the new hospital building was erected. The institution has room for 125 patients, is supported partly by paying patients and partly by donations and collections from churches.

A Temperature of 127° F.—Robert Bruce, lately returned from service in the Ninth Infantry in the Philippines and China to Chicago, is reported to have this high temperature. Several days ago Bruce entered the City Hospital and asked for treatment. When the house physician took his temperature, and found it to be 112° F. and the patient showing no sign of early dissolution, he was astonished. The next day it was found that the clinical thermometer had not sufficient range. Other physicians were summoned and a Government thermometer applied, the mark of 127° F. was registered, and for several days in succession Bruce's temperature has reached this point. It is reported that Bruce's pulse does not go up in proportion to his temperature. An explanation given as to Bruce's condition is that a bullet which pierced his mouth lodged in the heat center of the brain.

Lupus Healed by Means of Roentgen Rays.

At a meeting of the Chicago Medical Society, held November 14th, Dr. W. A. Pusey demonstrated this case. The patient was a woman, thirty-eight years old, otherwise in fair health, without history of any sort of preceding eruption. Family history tuberculous. The diseased area involved the left cheek, the left side and front of the neck, the lips at the left angle of the mouth, and the chin, and extended up on the right cheek beyond the angle of the mouth. The disease was of four years' duration and had steadily progressed. At the time treatment was begun there was an active lupus area, with characteristic ulcers covered with reddish crusts and thick, band-like scars in which there were at many points recurrent ulcers and lupus nodules; characteristic tubercles were to be seen at many points. Tubercle bacilli were found in sections of tissue taken from the border of an ulcer. The patient was put under treatment with Röntgen rays on May 8th, and, with the exception of six weeks when there was no treatment, had almost daily exposures until November 14th. The only other local treatment was the use of boric-acid vaseline while the surface was freely ulcerating. Internally the patient took a pill of reduced iron, arsenous acid and strychnine, three times a day, during the month of October. Beginning May 8th the exposures were made daily until May 26th. After May 26th daily exposures were interrupted by intervals during which there was no treatment, the exposures always being temporarily stopped on the development of slight dermatitis. Within two weeks after the beginning of treatment the ulcers were cleaning up and improvement after that time was continuous. The last lesions had entirely disappeared by October 8th. An interesting observation was that lesions which did not receive the full effects of the rays required extra exposures for their healing. No new lesions have appeared and at the present time it is impossible to find active trace of the disease. The scars resulting are soft, flexible and white, confirming the claims of other observers. The thick lupus scars which existed when treatment began have shown under the exposures great improvement in flexibility, softness and color. The case was presented as one healed by exposures to Röntgen rays. It was admitted that whether it is a complete cure or not can only be determined by the lapse of time. It was pointed out that there were at least no evidences of disease remaining and that even should more or less recurrence of the lupus take place the result might still be called extraordinary.

GENERAL.

Riot in a Medical School.—There was a riot at the Omaha Medical College November 15th, in which a hundred students participated. Two students were seriously injured, one perhaps mortally, and a dozen others were more or less hurt.

Plague in Cape Colony.—The bubonic plague has broken out among the natives near King William's Town, twenty-eight miles northwest of East London, Cape Colony. Three deaths have already occurred.

President of Johns Hopkins Resigns.—Dr. Daniel C. Gilman has sent in his resignation as president of this university because of advancing years. Dr. Gilman is now nearly seventy years of age. His resignation is to take effect February 22, 1901.

Chinamen and the Plague.—Over 5000 Chinamen have just returned to San Francisco from the fisheries, canneries and other industries on the western coast. According to reports many of these Chinamen are greatly emaciated and weakened by hard work and poor feeding. There is fear that they will contract the bubonic plague when they get back to Chinatown.

Doctor and Automobile.—Dr. Francis H. Munroe, of Newark, N. J., was said last week to be recovering rapidly from injuries received in an automobile accident.

Rabbits and Diphtheria.—Newspaper reports say that the town of Grafton, Ill., is undergoing an epidemic of malignant diphtheria, which physicians believe was communicated to persons by rabbits. A great many rabbits have infested the country surrounding Grafton this fall, and the hunters put them on the market at prices so cheap that they were used largely as food. Within the last week hundreds of dead rabbits have been found near the town. It is said that the local practitioners became convinced that the rabbit flesh was responsible for the illness and caused microscopic examination, which proved that the rabbits found dead had succumbed to diphtheria.

St. Louis Academy of Medical and Surgical Sciences.—At the last meeting of this Society the following officers were elected for 1901: President, Dr. Emory Lanphear; Senior Vice-President, Dr. Carl Pesold; Junior Vice-President, Dr. H. S. P. Lare; Secretary, Dr. O. L. Suggett; Treasurer, Dr. G. M. Phillips; Orator, Dr. Wm. Porter; Librarian, Dr. H. G. Nicks.

Yellow Fever at Natchez.—The latest advices from Natchez report that at a conference of nearly all the physicians of the city November 9th it was stated that 12 cases of yellow fever with 7 deaths had occurred since about the middle of October. There were 5 known cases on the 9th, 2 new on the 8th. Local authorities say they will isolate and guard cases and suspects and make post-epidemic disinfection. Local conditions favor the control of the disease. The weather is cool, bright and clear.

A Physician Vindicated.—Adelbert Swartz, of Indiana, convicted of the murder of his brother-in-law and given a life sentence in the penitentiary at Jackson, Mich., in 1895, will be liberated within thirty days. Proof of his innocence has

come to light, and the Pardon Board has recommended his release.

Intemperance in Russia.—The Government is displaying great interest in the temperance movement. The Minister of Justice has transmitted to the commission appointed to reform the penal code a proposition emanating from the National Hygienic Society to forcibly detain confirmed inebriates in hospitals.

The Denver College of Medicine.—This institution, prominent among the smaller medical colleges, enters upon its twenty-first session with the best class of students in its history. Its laboratory facilities are greatly amplified and its clinical advantages materially improved. The department of pathology and histology has been placed under the care of Dr. J. A. Wilder, that of anatomy under the care of Dr. S. B. Childs.

Suicides and Homicides in the Army.—Surgeon-General Sternberg has prepared statistics making a comparison of cases of suicide and homicide which occurred in the Army during the years of 1898 and 1899 compared with the ten years between 1888 and 1897. Revising our report of the 17th inst., the statistics show that there were relatively fewer homicides during those two years than during the previous decade. The average number of suicides per year in an army of 27,116 for the ten years was 17, equal to a ratio of .63 per thousand. The strength of the Army in 1898 is given at 147,795, the number of suicides 38, and the ratio per thousand .26. The strength of the Army in 1899 is given at 105,546, the number of suicides at 30; ratio per thousand .28. During the ten years from 1888 to 1897 the mean annual number of homicides is given at 5.5, the ratio per thousand being .20. For 1898 the number of homicides was 19, and the ratio per thousand .13; for 1899 the number of homicides was 23, giving a ratio of .22 per thousand men.

Yellow Fever in Nicaragua.—*El Comercio* of Managua, Nicaragua, in its issue of October 18th, declares that yellow fever is prevailing in the city of Leon, near the Pacific port of Corinto, to an alarming extent, and that the disease is of a very dangerous type.

Yellow Fever and Santiago.—According to *The New York Times* this city has been rid of its yellow fever. It says: "The yellow-fever epidemic at Santiago in 1899 resulted in a death-rate of 20 per cent. of all who contracted the disease. This comparatively low rate was only obtained through the great moderation of the disease toward the end of the season, when the force of the storm had spent itself. Of the first seven men who were taken to the yellow-fever hospital but two recovered. General Wood was absent in the North when the epidemic began. It raged without abatement until his return, when he took prompt measures to quench the fires by removing the fuel on which they fed. Within a few hours

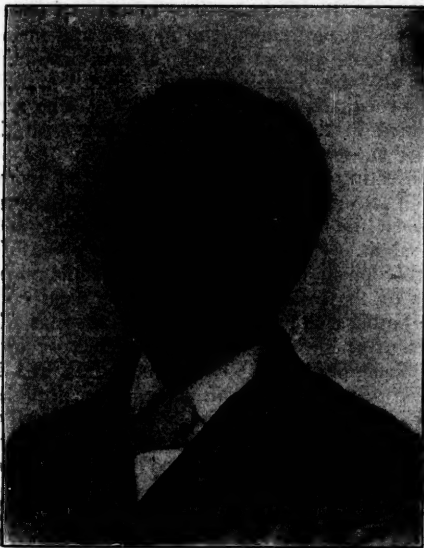
every American soldier in the city was on his way to the mountains; department headquarters were removed to a safe village at a high altitude, and prompt isolation of suspicious cases and disinfection of houses they had occupied were made. All American bars were closed and other liquor-shops were forbidden to sell to Americans. All non-immune loiterers about saloons were isolated and disinfected as if they had been exposed to the disease. Hotels and lodging-houses in which cases had occurred were closed. Quarantine measures were strictly enforced, and non-immune passengers were not permitted to land in Santiago until late in the autumn. The disease soon began to wane. By the middle of October department headquarters were able to return to the city. The result of two years of American rule had been to make Santiago, to all outward appearances, as clean as any American city. A medical officer of the army, as Sanitary Inspector, has made a house-to-house inspection throughout the city. The Colonel has had the cooperation of the city authorities, who have made it a misdemeanor, punishable with fine and imprisonment, to resist this inspection or to fail to carry out the resulting orders. Where poverty prevents compliance with orders to clean up the work is done at the public expense, but, public or private, the work has to be done. Every house where yellow fever occurred last year has been disinfected three times. Eighty-five miles of streets in Santiago have been swept daily, and 25,000 cubic yards of sweepings have been hauled out of the city during the year. One hundred and eighteen thousand cubic yards of garbage have been removed, in the destruction of which 35,000 gallons of crude petroleum have been used. Four thousand gallons of carbolic acid and 11,000 pounds of chloride of lime have also been employed in the same work. A Board of Health, organized by Colonel Whitside, advises on all sanitary matters within the city and collects vital statistics. Any case of contagious or infectious disease reported is at once examined by three members of the Board, and no case is officially recognized except when the diagnosis is agreed on by a majority of the Board. A strict quarantine is maintained against towns where yellow fever is known to exist, and from which people may reach Santiago within the detention period of five days. Detention camps are organized for the observation of suspicious cases. The result of this work is that there has been no fever in the city since last December. Had fever come in spite of all that was done, everything was organized to take care of it. Its banishment from this city, its favorite habitat for three or four hundred years, has been accomplished by American cleanliness and energy, intelligently directed by military authorities, and its absence has been neither freak nor accident."

The excellent showing reflects great credit on the administration if further reports are corroborative.

OBITUARY.

HORACE TRACY HANKS, M.D., LL.D.

DR. HORACE TRACY HANKS died at his home, No. 766 Madison Avenue, of nephritis, Sunday, November 18th, after an illness of one week. He was born in Vermont in 1837. After two years at the University of Vermont and some winters' teaching in the public schools of East Randolph, Mass., he entered the Albany Medical College, from which he was graduated in 1861. He served in the Union Army as assistant surgeon with the Thirtieth New York Volunteers. In 1863 he resigned and went to Royalston, Mass., where he practised for a year, and then removed to New York in 1865. Dr. Hanks was gynecologist at the De Milt



HORACE TRACY HANKS, M.D., LL.D.

Dispensary from 1872 to 1882; assistant surgeon at the Woman's Hospital from 1875 to 1879, and surgeon since the latter year. Since 1885 he had been professor of diseases of women in the New York Post-Graduate Medical School and Hospital. He was also consulting gynecologist to the Northeastern and Judson Dispensaries and to the Tarrytown Hospital.

Dr. Hanks had a marked and high order of mechanical originality which was utilized in the construction of new instruments, many of which are now in use. He was also largely engaged in interests outside of his medical work and his social engagements were numerous. He was a member of the Republican and Quill Clubs, the Society of Medical Jurisprudence, the Sons of the Revolution, Lafayette Post of the G. A. R. and the New England Society.

CORRESPONDENCE.

OUR LONDON LETTER.

[From Our Special Correspondent.]

LONDON, November 14, 1900.

SCANDAL AT THE NATIONAL HOSPITAL FOR THE PARALYZED AND EPILEPTIC—APPOINTMENT OF A COMMISSION OF INQUIRY—LETTER OF SIR WILLIAM BROADBENT—PRECAUTIONS IN LONDON AGAINST THE PLAGUE—MR. JAMES CANTLIE'S DESCRIPTION OF THE DISEASE—THE RETURN OF THE CITY IMPERIAL VOLUNTEERS—MANY CASUALTIES IN WITNESSING THE PROCESSION.

THE conflict between the board and staff of the National Hospital for the Paralyzed and Epileptic, of which I advised you some time ago, still continues. It may be remembered that the staff alleged that grave defects existed in the administration—an insufficient supply of nurses and improper dieting of the patients—and made the very modest request that they should be allotted two seats on the board, pointing out that such an arrangement would render impossible the existence of the evils mentioned. The board adopted an unreasonable and overbearing attitude and refused this request, giving as a reason that the conduct of one of their medical officers might at some time have to be called in question before the board and that he might, therefore, be placed in the anomalous position of sitting in judgment on himself. To this weak argument I have already replied. Finding protests useless, the staff has through the press brought the matter before the public and the board has at last been compelled to consent to an inquiry by an independent tribunal. In *The Times* a controversy has been carried on for several months in which many of the leading consultants of London have taken part. Sir William Broadbent treats the subject in a very trenchant manner. The public, he says, scarcely realizes the issues which are at stake. The demand that two representatives of the staff should have places on the board conveys a totally inadequate idea of the importance of the question involved. It is put forward as a means of redressing grievances which have become intolerable. The physicians and surgeons of a hospital have their minds too fully occupied with the care of the patients to desire to take part in the administration of the institution, so long as their instructions are carried out. In no department of medicine are the problems of disease more difficult and absorbing than in neurology and nowhere has better work been done in their elucidation than at the National Hospital. How grave must be the matter, then, which could provoke a unanimous protest from men engaged in such studies! The staff of the National Hospital occupies an exceptional position. Most hospital physicians and surgeons owe at least as much to their hospital in opportunities

and reputation as the hospital owes to them. But the National Hospital is the creation of the distinguished men who form its staff. No other institution can present such a galaxy of names absolutely in the front rank. Buzzard, Bastian, Gowers, Brundell Carter, Ferrier, Semon, Hughlings Jackson, to go no further, are known all over the world. These are the men who are brought to the verge of collective resignation by a board quite incompetent to give any opinion on their complaints!

As a precaution in case plague should invade the metropolis the London County Council has had written a pamphlet containing a concise description of the disease by Mr. James Cantlie, formerly medical officer in one of the plague hospitals in Hong-Kong and Dean of the Medical College of Hong-Kong. A copy of this pamphlet has been forwarded to all the practitioners in London to assist them in the diagnosis of the disease. The Council has also engaged the services of Mr. Cantlie to visit any person in London suspected of suffering from the disease. Any medical man can avail himself of these services by simply applying. As very few practitioners have ever seen a case of plague this arrangement must prove a great boon in cases of difficulty. But thus far only one doubtful case has occurred and this turned out not to be plague. Mr. Cantlie points out that in former times the word plague was applied to almost any epidemic, but in recent years it has come to designate a specific disease. He recognizes 8 types, *vis.*, (1) bubonic, (2) septicemic, (3) pneumonic, (4) nervous, (5) fulminant—in which the patient quickly collapses and dies within twenty-four hours, (6) puerperal—in which abortion occurs, (7) *pestis ambulans* in which the patient goes about and performs his ordinary duties, (8) *pestis minor*—a mild form which occurs not only when the epidemic is at its height, but for several months (or years) before and for several months (or years) after. The importance of the latter form is that it may precede an outbreak. The symptoms are swelling of an inguinal gland, fever and malaise. The bubo suppurates and discharges by two, three or more fistulous openings. After excision healing takes place in a month and the patient is cured. Plague is spread chiefly by human agency, but rats, body and household parasites, food, drink, and air are all means. The excreta—feces and urine—contain the bacillus. The sputum is the most infectious of all. It is by the vermin in the coat of rats which leave it after death that infection is probably conveyed to man.

The return of the City Imperial Volunteers from the war was witnessed by a throng of people in London, the extent of which has never been exceeded, and was attended by over 1000 casualties of which two were fatal. In several places the police charged with keeping the route clear were overwhelmed by the vast multitude, and quite powerless. At one hospital, St. Bar-

tholomew's, 70 cases were treated of which 13 were retained. They included abdominal and head injuries and cases of fractured ribs. Two men standing on a scaffold fell to the ground and were killed. The scaffold gave way owing to the attempt of a number of persons to climb it.

TRANSACTIONS OF FOREIGN SOCIETIES.

British.

ETIOLOGY OF RHEUMATIC FEVER—PHTHISIS AND WIND—ARTHRITIS AND APPENDICITIS—EARLY OPERATION IN APPENDICITIS—ACUTE PULMONARY VALVULITIS—ACUTE ACTINOMYCOSIS—MEDICAL CARE OF GYNECOLOGICAL CASES.

F. J. POYNTON and A. PAYNE at the Pathological Society of London, October 16th, read a paper on the etiology of rheumatic fever which was an epitome of their report *in extenso* of observations and experiments read in June and made up to that time and an additional memorandum of such as have been had since that time. The paper consisted of three parts: (1) The results obtained in the original eight cases with those in the subsequent three new cases of the fever by injecting the diplococcus recovered from all eleven into rabbits. (2) A comparison was made between the lesions in the human being and in the rabbit. (3) An exhibition was given of the microscope slides and a few macroscopic preparations of the lesions caused by this diplococcus. The authors laid stress upon the fact that all the cases of rheumatic fever had been very typical and none doubtful. The diplococcus had been grown in pure culture in a medium composed of milk and bouillon acidified by lactic acid and then transferred to blood agar. Injected intravenously into rabbits it caused death rapidly by acute valvulitis. The diplococcus was then isolated from the blood and cerebrospinal fluid and cultivated as before. Injected into a young rabbit it caused endocarditis and polyarthritis with much effusion. Local and systemic recovery ultimately followed. This same organism had been found in the bladder after death and in the urine during the course of acute pericarditis. Such injected into rabbits caused pericarditis, endocarditis, polyarthritis, emaciation, pyrexia and death on the twentieth day. There was no suppuration in any of the viscera. Chorea was noted once combined with great nervousness of the animal and at autopsy valvulitis. Their microscopic examinations were not yet completed, but one remarkable fact was recited, *vis.*, when the lesions, especially the pericarditis with effusion, were not marked, a large coccus was recovered with relatively few of the diplococci. The same atypical coccus could be produced by cultivating the diplococcus upon improper media and seemed to indicate changed virulence or chemistry of the organism or both. They appeared as evidence of the subsidence of the lesion. In some cases of malignant endocarditis the converse was found,

namely, very numerous active diplococci. Perhaps relapses in rheumatism might be explained by some latent energy in the large cocci. In conclusion they expressed the theory that in rheumatism there is great local resistance whence is found the evanescent character of the lesions, pericarditis, endocarditis, etc. They have noted large numbers of the diplococci taken up in the bodies of the connective and endothelial tissue cells.

W. GORDON (Exeter) at the Royal Medical and Chirurgical Society recited investigations into the influence of wind upon phthisis in the county of Devonshire and the bearing such would have upon choice of sites for sanatoria for consumptives throughout Great Britain. His plan was first to compute the ratio for each district of the death-rate due to pulmonary tuberculosis to the total number of deaths, on the ground that the latter is usually an index of the general sanitation of a community. Then he proceeded to assign causes for the phthisis where there was an undue number of cases of it. Rainfall appeared to have some influence, for in Tavistock the rain and the disease were both at the maximum, while at Axminster each was at the minimum. Other considerations indicated a common cause for this relation, possibly the wind which brought the rain. It seemed scarcely possible that the geologic conditions of the soil could be a factor. The theory of wind influence upon tuberculosis is not new, but he tested it thoroughly in this shire. He found the lowest mortality in communities where the houses were well sheltered, the greatest mortality where they were much exposed, especially to the west and south-west winds. He did not think that temperature, sunshine and purity of air could have much influence, but regretted that they could not well be reduced to definite computation.

F. J. POYNTON at the Medical Society of London, October 22d, discussed the relation between appendicitis and arthritis. The concurrence of these two diseases is not common, but deserves elucidation in order to explain the causes of the appendicitis. Many claim that these may be rheumatic in origin, because of (1) the concurrence of appendicitis and acute articular rheumatism; (2) the occurrence of a polyarthritis resembling an acute rheumatism either during or just after an appendicitis; (3) the favorable reaction in appendicitis to salicylates; (4) the analogy of structure between the tonsil and the appendix. His own view is that this association is not conclusively causal, although both may be cured by the salicylates. It is further very likely that the arthritis in appendicitis may be purely pyemic by metastasis, as is often shown on autopsy. A purulent or gangrenous appendix will have metastases elsewhere pyemic in character, it may be in the lungs, liver, other viscera or joints. Finally, it should be remembered that monarticular lesions in children, like hip affections, even if rheumatic, may on the right side

simulate appendicitis and that in pronounced rheumatic attacks in children the abdomen is often the seat of distress.

C. W. M. MOULLIN at the Harveian Society of London, October 18th, read a paper on the early operation in appendicitis. All attacks of this disease he considers are divisible into three groups: First, those which have a mild invasion, short course, need no operation and always yield to medicinal and dietetic management. They make up by far the greatest number of patients. Second, those who are afflicted by a severe attack; in them the appendix is severely infected, goes on to suppuration and adhesions, abscess or gangrene results. These patients are less numerous than the preceding class, should always be operated on and usually are, but entirely too frequently the treatment is too late. The third series of a case is the peritonitic, where the appendix ruptures prematurely and freely in the general peritoneal cavity. Such patients are often lost notwithstanding early and drastic operation. In dealing with any case of this disease several axioms must be remembered. These are the frequently virulent and rapid invasion and course of the process, the anatomical freedom of the appendix to swing to almost any point of the abdominal cavity and, rupturing, dump its septic contents and set up a furious peritonitis; the deceptive latent possibilities of a case which has had a very mild initiation, but without warning may be modified to an intense course and fatal issue, and, finally, the common experience that an original insignificant attack may be followed by one of early fatality either in itself or in the patient's surroundings which may be far from the reach of skilled surgical aid. In view of these facts the real danger for the patient lies not in the comparatively safe operation of removing the organ while slightly diseased and not adherent, but certainly in delaying to do so. The only symptoms which will serve as guides to the moment of operation are the pulse, temperature, tenderness, muscular rigidity and pain and sense of fullness in the right iliac fossa. With the patient in bed a constant pulse of over 100 or a rise to that level and over is the best single sign. The temperature is by itself less reliable, unless there be a steady rise or a sudden rise. Increase in the pain, tenderness and muscular rigidity is very significant. A sense of fullness or tumor in the right iliac region is pathognomonic. Vomiting and constipation and other symptoms are much less reliable as guides. The absence of any special sign is not solely a reason for waiting. The presence of a rapid pulse, even if other conditions appear quiescent, is full reason for immediate operation. This is still more emphatic if morphine has been administered. The limit of waiting may be arbitrarily put at thirty-six hours, but each case must be decided on its own merits. In some this will be too long; in other cases delay may be properly prolonged. The danger lies in making the error and postponing the operation

till too late. The difficulty lies in distinguishing a severe case at the outset. It is at this period that the operation possesses very little danger and should be known as a truly preventive measure. In view of all the difficulties possible in any case he thinks this immediate preventive operation always justifiable; first, because it has little hazard itself, second, because it is safest to ablate any diseased appendix.

T. CHURTON at the Pathological Society of London, October 16th, showed a specimen of acute pulmonary valvulitis. The child, eleven years old, was perfectly well until she had her first attack of rheumatic fever in her fifth year; in her eighth year she developed pulmonary tuberculosis with hemoptyses and the following year had acute rheumatism with pneumonia. During her last illness a loud rushing bruit was heard in the second left intercostal space and the diagnosis of pulmonary stenosis was made. The autopsy showed vegetations along the valves and marked narrowing. The foramen ovale, ductus arteriosus and septum ventricule were all closed.

D. DUCKWORTH at the Clinical Society of London, October 12th, rehearsed the history of a case of acute actinomycosis in a nineteen-year-old youth. He was admitted September 28, 1899, complaining of pain and swelling in left chest low down. He had had gastric pain after eating for months before admission, but this had passed off. When he came to the hospital he had a temperature of 99° F. and pulse of 100, deficient respiration in the left lower chest with gradually increasing bulging, dulness and absence of breath sounds in the axillary region below the sixth rib, dulness and friction crepitus for four inches behind. The bulging was partly thoracic and partly abdominal and seemed to involve the left lobe of the liver, which was exceedingly tender and displaced by respiration. October 25th the temperature reached 102° F. and 102.8° F. on the 26th. Abscess of the liver was vainly explored for and actinomycosis suggested, but could not be established. At the autopsy actinomycosis of the left lobe of the liver, a softened mass between it and the pylorus and a subdiaphragmatic and left pulmonary abscess filled with ray fungus were found. The source of infection may have been the old gastric ulcer.

H. SMITH at the British Gynecological Society, October 11th, deprecated the fact that modern surgical successes had made the operative treatment in gynecology overshadow the medical treatment. There are many conditions in which locally and systemically medicines, diet and hygiene may cure and the dangers of operation be avoided.

Hospital Site Purchased.—The Sisters of the Poor of St. Francis, who conduct the St. Francis Hospital, have bought the plot of thirty-two lots on the east side of Brook Avenue, from 142d to 143d Street. The property will be improved with a hospital building.

SOCIETY PROCEEDINGS.

CHICAGO PATHOLOGICAL SOCIETY.

Stated Meeting, Held October 8, 1900.

The President, Ludvig Hektoen, M.D., in the Chair.

Milk Supply.—Dr. S. E. Munson of Springfield, Ill., read this paper, in which he discussed in particular the relation between milk supply and tuberculosis. The recent literature bearing upon the subject was referred to and the use of tuberculin and the slaughter of cows giving a reaction were advocated.

Dr. W. A. Evans spoke of the various measures advocated for the elimination of tuberculosis from herds of cows, and concluded by advising the killing of all tuberculous cows, as has been urged by Virchow.

Dr. Gehrmann referred to the measures taken by the Chicago Health Department relative to the detection of tubercle bacilli in milk. The examination of a general milk supply for the bacilli has been discontinued, and only the milk from individual cows is tested. The use of tuberculin is always recommended in any case where suspicion is aroused, in preference to the examination of the milk. The detection of pus in milk is considered sufficient evidence upon which to condemn it, even in the absence of tubercle bacilli.

Neuro-Epithelioma.—Dr. Brown Pusey demonstrated specimens of a glioma of the retina. He said the fact that current pathological literature contains several articles on the subject of glioma of the retina has suggested the idea that the members of the Society might be interested in seeing sections from such a tumor. The present agitation on the subject of glioma of the retina undoubtedly is due to the article of Flexner, published August, 1891, and to the book of Wintersteiner, "Das Neuro-Epithelioma der Netzhaut," published in 1897. In these publications particular attention is paid to the "rosettes" found in such tumors. Wintersteiner described the rosette as composed of cells derived from the neuro-epithelial layer of the retina; the wall of the central cavity of the rosette, he thought, corresponded to the external limiting membrane of the retina, with rudimentary rods and cones projecting into the central cavity. Flexner and Wintersteiner, working independently, came to similar conclusions, and from these studies suggested the name *neuro-epithelioma retinae* to replace the term *glioma retinae*. These conclusions have been accepted by many authorities; others have opposed them. Two facts have been particularly hard to explain when considering these tumors as new growths derived from the neuro-epithelial layer of the retina. One is that, according to present views, such highly differentiated tissues do not form tumors; the other is

that the gliomata arising elsewhere than in the eye have very similar rosettes.

The tumor from which the specimens were taken was evidently removed in a very early period of its development. It shows the rosettes unusually well. Especial interest attaches itself to the specimen from the fact that there can be no doubt that the cells of the rosettes of this tumor do in places split up into fibrous tissue—into neuroglia. He thought it would require a great stretch of the imagination to look at some of the sections and then speak of rudimentary rods and cones projecting into the central cavity of the rosette. He believes that the specimens demonstrate that the rosettes are composed of cells which form neuroglia; in other words, that the suppositions of Flexner and Wintersteiner that these tumors are neuro-epitheliomata are incorrect, and that these tumors are, as was formerly believed, true gliomata.

In the discussion Dr. M. Herzog agreed that the tumor consisted of glia cells, and that if blood could be demonstrated in some of the spaces, the picture would correspond to a glioma of the central nervous system.

Castration Tumors.—Dr. H. Duncan demonstrated specimens of these tumors taken from swine, and said that there is a disease of swine characterized by a tumor or growth which, as a rule, appears after castration, occupying the position of the testicle. Similar growths occur, however, in other situations and usually on the breast in the female. A trauma of some kind invariably occurs previous to the appearance of the growth. The clinical history of the disease is briefly as follows: About two weeks after castration a swelling appears at the site of the castration wound. The tumor, as a rule, grows rapidly and in from three to five weeks one or more ulcers appear in the cicatrix. Close inspection shows the ulcers to be the external openings of fistulous tracts from which there is a constant discharge of purulent material—the discharge may be intermittent. Not infrequently the growth acquires enormous proportions as compared with the weight of the animal and in such cases may drag upon the ground. During the early stages the animal thrives, later it becomes cachectic, loses flesh and dies about twelve months after the inception of the growth. The growth is in anatomical connection with the distal end of the spermatic cord. It is in most cases single, but there may be two or more growths on the same side of the scrotum. It consists of a softened center enclosed by a capsule of firm, avascular, white, fibrous tissue. The fibrous tissue merges externally into a loose fibromyxomatous, sometimes edematous, tissue. The form of the swelling is generally round or oval. There may be smaller secondary tumors or nodules in close relation to the primary growth varying in size from that of a pea to that of a hen's egg, having a structure similar to that of the primary growth. More rarely small nodules are strong along the

course of the cord. The histology of the growth is uniform and corresponds to the macroscopic appearance, *vis.*, a structureless, neurotic center with an enclosing zone of scar tissue. In sections stained for bacteria the neurotic border is seen to contain numerous organisms, sometimes in enormous numbers. There may be bacilli of varying lengths, threads and cocci. The threads stain uniformly or appear as strings of deeply-staining spores or cocci. Some of the threads branch. In all more than twenty tumors have been examined and cultures under both ordinary and anaerobic conditions have been made. Usually from two to seven different organisms have been isolated from each tumor examined. None of the organisms isolated were virulent enough to kill guinea-pigs. The bacteriologic results were not uniform. A ray fungus was isolated from three of a series of seven tumors. Smears from all of the series show threads, some of which branch. Swine were inoculated subcutaneously with pure cultures of the ray fungus with negative results. A sixty-pound male pig was inoculated by removing the right testicle, inserting a small piece of necrotic material from one of the growths and sewing up the wound. The result was a fairly typical growth at the site of the inoculation. It is interesting to note that the remaining testicle was partly neurotic, partly scar tissue, and a portion external to the growth was comparatively normal. The disease is not infrequent among the swineherds of the Southwest, as Iowa, Kansas, Missouri.

SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION.

Thirteenth Annual Meeting, Held at Atlanta, Ga., November 13, 14 and 15, 1900.

THE Association met in the ballroom of the Kimball Hotel under the presidency of Dr. A. M. Cartledge of Louisville, Kentucky.

Governor Candler of Georgia delivered an eloquent address of welcome, which was responded to by President Cartledge.

Medullary Narcosis.—Dr. W. L. Rodman of Philadelphia in reading this paper asked: Will the method displace ether and chloroform in operations below the diaphragm? No one, he said, however optimistic he may be concerning this new method will think of abandoning ether and chloroform. These trusted agents will continue to enjoy the confidence of the profession, and the Corning-Bier method will be held in reserve for certain cases in which there is seemingly a clear contraindication to chloroform or ether. Medullary narcosis should be given subjects suffering from bronchial, pulmonary, and renal diseases; to patients affected with fatty or dilated heart and cardiac diseases in general. It may also be given to old people in whom the shock of general anesthesia is oftentimes great, and, from its action in one case, the author believes it to be safer

than chloroform or ether in drunkards. The place where the spinal canal is entered is of some importance. Tuffier, Murphy, Matas, and others prefer the fourth lumbar space. In the opinion of the author any of the lumbar spaces can be punctured with safety. The fifth interspace between the last lumbar and the first sacral vertebra is in some respects the easiest route. The author considered the primary dangers of simple puncture without injection. It has not been shown that secondary changes, either inflammatory or degenerative, have taken place in membranes or cord leading to chronic disease. Theoretically, one might fear some form of sclerosis. Simple puncture of the spinal cord, if aseptically done, is unlikely to be followed by serious changes in the cord or its membranes. If to simple puncture is added the injection of some chemical substance by which anesthesia is produced, a new element of danger is undoubtedly incurred. Therefore, the choice of a local anesthetic becomes of paramount importance. Cocaine is difficult to sterilize, as it cannot be boiled without impairing its anesthetic properties. Raised to a temperature above 180° F., it is decomposed into ecgonin and becomes comparatively inert. Some have found it practical to boil cocaine and then introduce it into the spinal canal without impairing its anesthetic properties. By raising it to a temperature of 180° F., and repeating this twice, thrice, even six times, as recommended by Tuffier, it should be sterile, and therefore safe, and yet a dose of thirty minims of a two-per-cent. solution of cocaine is too large. Rodman recommended half of this amount. A small dose of a two-per-cent. solution is better than a larger one in greater dilution. He has reduced the number of minims of a two-per-cent. solution each time he has practised the method, and thus far he has not failed to obtain complete analgesia. In his first case he injected 18 minims; in the second, 15 minims, and in a third, 13 minims, and hopes still further to reduce the amount to 10 minims. One should aim to get complete anesthesia with the smallest amount of the drug. The primary and secondary effects of the injection of cocaine into the spinal canal are those of simple puncture exaggerated. Shock is increased, headache, restlessness, delirium, and other symptoms are necessarily more pronounced. The speaker referred to the method of injection. An iridoplatinum needle was recommended. Blindfolding the patient and filling the ears with cotton to avoid psychic pain are desirable.

Dr. Lewis S. McMurtry of Louisville predicted that medullary narcosis would not take the place of the established methods of anesthesia and that its field of usefulness would be restricted to the class of cases just outlined.

Dr. Willis G. MacDonald of Albany mentioned the case of a man, forty-two years of age, who had suffered from hemorrhoids and fissure of the rectum. The patient had always been a hard

drinker. Granular and hyaline casts were found in the urine, also a small amount of albumin. Patient likewise had a fatty, dilated heart. He injected 18 minims of a two-per-cent. solution of cocaine in the subdural space, and when he was about to begin the operation the patient became cyanotic; a profuse, cold perspiration began, so that it became necessary to give the patient one-twentieth of a grain of strychnine, one-twenty-fifth of a grain of nitroglycerin, when the respirations ran up to sixty or eighty. No pulse was discernible at the wrist. The pupils were dilated; patient became unconscious. More than two hours elapsed before the speaker felt safe as to the condition of his patient. The man suffered severely from headache and projectile vomiting during the entire afternoon, and had two or three involuntary movements. Two days later Dr. Macdonald administered nitrous oxide and ether and operated on the hemorrhoids. Patient recovered. During the summer, while on a visit to Europe, he saw a similar experience in the practice of Professor Kocher.

Dr. A. M. Cartledge of Louisville said his experience was limited to eight cases in which he had used this method of anesthesia, the results being satisfactory. In two patients severe headache, which soon disappeared, followed its use. Analgesia was complete in all cases. In one case he operated for the removal of pus tubes; in a second he removed an enormous fibroid tumor of the uterus; and in a third a large intraligamentous cyst. Some of the patients came off the table in much better condition than if chloroform or ether had been employed.

Dr. E. P. Mallett of New York detailed a case of retroverted adherent uterus in the practice of Dr. Grandin in which an abdominal section was made. At first much difficulty was experienced in finding the subdural space or medullary canal, and the patient complained of intense pain. It was finally found, cerebrospinal fluid escaped, and cocaine was injected, the analgesia being apparently complete in eighteen minutes. So much pain was experienced while the operator was making the incision that it became necessary to administer a few whiffs of chloroform to complete the operation. He also detailed another case in which posterior vaginal section was done for pelvic abscess. In this case the needle was introduced more quickly and with better success; but slight vomiting, as well as other symptoms, occurred. The subsequent course of both cases was uneventful.

Dr. Beverly MacMonagle of San Francisco spoke of two cases which he saw in the practice of Dr. Barbat of San Francisco in which medullary narcosis was used successfully. However, he was told by both patients afterward, and by Dr. Barbat, that they suffered a good deal from vomiting after they had been taken to their rooms, but subsequently recovered without any marked incidents.

Dr. Seneca D. Powell of New York does not

think the time is ripe for this method to be presented to the profession at large. He cited two cases that had occurred in his own practice in which he had used cocaine saying that both patients came very near dying from its effects.

Dr. Rodman, in closing the discussion, said he had used medullary narcosis on a man, forty-five years of age, who had a bursa in the popliteal space, with marked kidney trouble. The result was satisfactory in every respect. The next case was one of advanced kidney trouble in which he did a suprapubic cystotomy. Result, satisfactory. He would use medullary narcosis in those cases in which there are positive contraindications to ether or chloroform. The surgeon should always obtain the consent of the patient before using the method on account of any medico-legal complications that might subsequently arise.

Removal of Pelvic Inflammatory Masses by the Abdomen After Bisection of the Uterus.—A paper on this subject was read by Dr. Howard A. Kelly of Baltimore. Recently the author pointed out the great advantages which accrue from bisection of the myomatous uterus in abdominal enucleation in certain complicated cases. In previous contributions he had described his method of enucleation by a continuous transverse incision from left to right, or from right to left. He now calls attention to the great value of a somewhat similar procedure in certain cases of pelvic inflammatory diseases. The steps of the operation are these: If the uterus is buried out of view, the bladder is first separated from the rectum and the fundus found. Then, if there are any large abscesses, adherent cysts, or hematomata, they are evacuated by aspiration or by puncture. The rest of the abdominal cavity is then well packed off from the pelvis. The right and left cornua uteri are each seized by a pair of stout museau forceps and lifted up; the uterus is now incised in the median line in an anteroposterior direction and, as the uterus is bisected, its cornua are pulled up and drawn apart. With a third pair of forceps the uterus is grasped on one side of its cut surface as far down in the angle as possible, including both anterior and posterior walls. The museau forceps of the same side are then released and used for grasping the corresponding point on the opposite cut surface, after which the remaining museau forceps are removed. In this way two forceps are in constant use at the lowest point. He commonly applies them three or four times in all. As the uterus is pulled up the halves become everted and it is bisected further down into the cervix. If the operator prefers to do a pan-hysterectomy, the bisection is carried all the way down into the vagina. The uterine canal must be followed in the bisection, if necessary, using a grooved director to keep it in view. The museau forceps are now made to grasp the uterus well down in the cervical portion, if it is to be a supravaginal amputation, and the cervix is bi-

sected on one side. As soon as it is divided and the uterine and vaginal ends begin to pull apart, the under surface of the uterine end is caught with a pair of forceps and pulled up, and the uterine vessels which can now be plainly seen are clamped or tied. As the uterus is pulled still further up, the round ligament is exposed and clamped, then finally a clamp is applied between the cornu of the bisected uterus and the tubo-ovarian mass, and one-half of the uterus is removed. The opposite half of the uterus is also taken away in the same manner. The pelvis now contains nothing but rectum and bladder, with right and left tubo-ovarian masses plastered to the sides of the pelvis and the broad ligaments, affording abundant room for investigation of their attachments, as well as for deliberate and skilful dissection. The wide exposure of the cellular area over the inferior median and anterior surfaces of the masses, offers the best possible avenue for beginning their detachment and enucleation. The operator will sometimes find on completing the bisection of the uterus that he can just as well take out each tube and ovary together with its corresponding half of the uterus, reserving for the still more difficult cases, or for a most difficult side, the separate enucleation of the tube and ovary after removal of the uterus. The operation just described is not recommended to a beginner in surgery. The surgeon who undertakes it must be calm, deliberate, and must bear in mind at each step the anatomical relations of the structures. The author has had abundant opportunity to demonstrate the practical value of this method of treatment in his clinic this year. The advantages of a bisection and enucleation of the uterus as a preliminary to a complete enucleation of tubes and ovaries for pelvic inflammatory and other diseases by the abdominal route were briefly recapitulated as follows: (1) Additional space for handling adherent adnexa, afforded by the removal of the uterus. (2) Great increase in facility for dealing with intestinal complications. (3) Better access by new avenues from below and in front to adherent lateral structures. (4) Elevation of structures to or above pelvic brim, or even out into the abdomen, bringing them within easy reach of manipulation and dissection. (5) Some advantage in approaching both uterine vessels by cutting from cervix out toward the broad ligament as is secured in approaching one of them in the continuous transverse incision. In general the time of the operation is shortened; its steps are conducted with greater precision and surrounding structures are far less liable to be injured. In this way there are fewer troubles and sequelæ, and the mortality is lessened.

Dr. Willis G. Macdonald said his experience in bisection of the uterus had been very largely associated with tumors of the uterus deeply situated in the pelvis, attended with great tension upon both broad ligaments. In dealing with fibroids of the uterus it has been his custom to

follow the method improved by Dr. Kelly, and the only objection to the operation lies in a certain class of cases in which the tumor is deeply situated in the lower segment of the uterus, or extends to one side or the other in the broad ligament, or is associated with microcystic and adherent ovaries, so that, when the operator lifts the tumor out of the abdomen to begin preliminary ligation on one side or the other, he causes considerable tension upon the broad ligament, and when the ligature is placed upon one or the other ovarian artery there is more or less danger of it giving way when the tension is released. He has seen many cases in his own practice and that of other surgeons in which this accident had occurred.

Dr. J. Wesley Bovée of Washington, D. C., said he had occasionally removed the body of the uterus previous to the removal of the appendages in pus cases, also in fibroid tumors of the uterus. In some instances he had followed the method of Kelly. He had recently modified this plan in dealing with pus cases, *i. e.*, he has cut off the tube and ovarian ligaments from the uterus on one side, clamped the round ligament, going down to the cervix, clamping the uterine artery, cutting through the cervix and uterine artery on the other side, going up and removing the appendage on the other side with the uterus.

Dr. W. E. B. Davis of Birmingham, Alabama, expressed the opinion that the method outlined by Kelly would be of great assistance in the severe cases of inflammatory pelvic disease. The removal of the uterus for inflammatory disease had its origin in the difficulties which beset French surgeons in removing the appendages by the vaginal method, so that it became necessary for them to remove the uterus in order to have a route by which they could reach the adnexa. Dr. Kelly, therefore, has accomplished by operating from above what French surgeons had so frequently done through the vagina.

Dr. George J. Engelmann of Boston considers the method a step in advance and said it is really amazing that no one had thought of doing this work by the abdomen before it had been done by the vaginal route.

Vesico-Vaginal Fistula.—Dr. M. C. McGannon of Nashville, Tennessee, read this paper, in which he referred to the work of Sims, Emmet, Mackenrodt, and others, in this field of surgery. He has applied the principle of Mackenrodt in six cases, during the last two years, with primary union and complete closure of the fistula in every case. The technic in each case was the same, and this the author outlined at considerable length.

Osteofibroma of the Uterus.—Dr. George Ben Johnston of Richmond, Virginia, reported this case. The patient, Mrs. S., aged thirty years, is the mother of three children, the youngest being three years old. About two years after the birth of the youngest child she noticed an enlargement of the abdomen, and at times experienced diffi-

culty in voiding her urine. She believed herself pregnant, but on account of the continuance of her menses and increasing difficulty of micturition, she consulted her physician and an examination of the genital organs was made. This examination disclosed a tumor which filled the pelvic cavity, growing from the posterior wall of the uterus and so displacing the uterus forward that it pressed upon the bladder. Six months later she missed her menstrual period, and by this time her size had greatly increased and her ability to void urine normally was almost lost. About the middle of March, 1900, after being all day upon her feet, a severe hemorrhage occurred and the next day she passed a fetus of six or eight weeks' development. Hemorrhage was promptly checked, but her size did not reduce and the pressure symptoms continued. He operated upon her April 10, 1900. Complete hysterectomy was performed. Macroscopic examination showed a tumor about the size of a small orange and of firm consistence. Held between the thumb and fingers, it gave the sensation that is produced by pressing a hard-boiled egg, the shell of which has been broken. Plates, apparently of bone, surrounded the surface, and on opening it a substance resembling medullary tissue was found. This was unfortunately lost, therefore no subsequent histological study of it could be made. Attached to the lower part of the osseous tumor was a small fleshy mass, which contained a body about an inch in length and resembling a heart in shape. On opening the uterus a recent placental site was found near the uterine opening of the right Fallopian tube. Microscopic examination of the tumor verified the diagnosis made macroscopically—osteofibroma. Patient recovered.

Dr. Howard A. Kelly said he would be loath to accept diagnoses that had been made twenty-five years ago in regard to tumors of this kind, when the difference between calcified tumors and teratomata was not clearly understood, and even pathology itself was in a vague condition. In 561 myomectomies he has met with 27 calcified myomata.

Dr. J. Wesley Bovée mentioned three cases that had come under his observation. In one the tumor was removed through the vagina, it being a submucous fibroid. The tumor passed down through the cervix, so that it required only slight slitting of the cervix to remove it. Around the base of it he found considerable bony structure in the body of the uterus near the fundus. Two other interesting cases were detailed.

Appendicitis in the Female.—Dr. F. W. McRae of Atlanta, Georgia, read this paper. At the outset the author referred to an exhaustive article by Edebohls as to the relative frequency of appendicitis in the two sexes; also to the work of Einhorn, who in 18,000 successive autopsies found perforating appendicitis in 55 per cent. of males and 57 per cent. of females. Robinson, in 128 autopsies, found evidences of past perito-

nititis in or about the appendix in 68 per cent. of females and 56 per cent. of males. Clinically, Edebohl finds that 4 per cent. of all women have appendicitis. On the contrary, Deaver believes that 80 per cent. of all cases occur in males. Of 1577 cases of appendicitis collected from the annual reports of the City Hospitals of Berlin, 949 were males and 629 females. In practically all of the cases in females that had come under his observation mistakes in diagnosis had been made either by himself or by the attending physician. Almost all of the attacks had occurred at or about the menstrual term, and most of them had been diagnosed "inflammation of the tube or ovary." In two cases in his own series the appendix and the right tube and ovary were involved; in two others the appendicular trouble was complicated with diseased kidneys. Two patients suffered with recurrent appendicitis and attacks of renal colic before or after operation for the removal of their appendices. He had records of 49 cases of appendicitis seen within the last sixteen months, 29 of them being males and 20 females. During this period he had operated on 17 males and 14 females. The author then detailed 13 cases which were reported to emphasize the difficulties attending diagnosis. In several of them systematic treatment directed to the genitalia had been carried on without giving any benefit whatever, while the removal of the appendix effected a cure. In others the ovaries and tubes had been removed, and still the symptoms persisted until relieved by appendectomy. The author is convinced that the great disparity in the statistics as to the relative frequency of appendicitis in the male and female is due in a great measure to mistakes in diagnosis. It is much more difficult to make a diagnosis of appendicitis in the female than it is in the male. Sufficient stress has not been laid upon the fact that appendicitis in women usually occurs at or about the menstrual period.

Dr. J. B. S. Holmes of Atlanta detailed three interesting cases of appendicitis in females, which illustrated forcibly the necessity of always examining the appendix when the abdomen of a woman is opened for any cause.

Dr. Hal C. Wyman of Detroit cited a case of extra-uterine pregnancy in which he removed a fetus that had apparently died at the end of the seventh month of pregnancy. The operation was done thirteen months after the appearance of the first symptoms of pregnancy. The appendix was found intimately blended with the fimbria of the right tube. The left tube was also somewhat diseased and he doubted its perviousness. It was not removed because there was no particular indication for its removal. The right Fallopian tube, however, was involved with the appendix by dense inflammatory adhesions, and it occurred to him that in consequence of that blending the impregnated ovum had escaped. With this experience some of the cases of extra-uterine pregnancy might possibly be justly charged to ad-

hesions between the fimbria and the appendix. The appendix was three and a half inches long; it had a number of scars; it was much hardened at its end and at the point where union with the fimbria occurred.

Dr. Howard A. Kelly stated that for four years past he has made it a rule at the Johns Hopkins Hospital to have stated in the history the exact condition of the appendix. During this period he has removed 150 appendices. Of this number 60 were involved in pelvic inflammatory disease. He found the appendix adherent to myomata in 12 and to ovarian tumors in 9. He found carcinoma of the appendix secondary to ovarian carcinoma, without any traceable macroscopic relation in 1 case, and primary carcinoma in 1 case. He found tuberculosis of the appendix secondary to tuberculosis in the tubes and ovaries in 3 cases; in the remainder of the cases calculi, cystic diseases, and uncomplicated appendicitis. If, in opening the abdomen for any pathological condition, the incision is sufficiently large, he would examine the appendix.

Dr. Lewis S. McMurtry mentioned a case in which he had enucleated an ovarian cyst in a woman aged thirty years. She had had a typical acute perforative appendicitis, followed by septic symptoms, which was quite limited in the area of peritoneal involvement. When the abdomen was opened it was found that the appendix, instead of perforating the general peritoneal cavity, pierced the ovarian cyst, in that manner limiting the infection to the ovarian cyst and saving the life of the patient.

Dr. William P. Nicolson of Atlanta called attention to the coincidence of disease of the appendix and uterine adnexa, and cited cases in which symptoms for years had been ascribed to uterine or ovarian trouble, but operation disclosed the fact that the appendix was solely at fault.

Dr. George Ben Johnston expressed the conviction that chronic appendicitis is quite as frequent in the female as in the male. He believes, however, that fewer cases of the fulminating form of the disease are seen in the female than in the male. He has observed numerous cases of chronic appendicitis associated with movable kidney in females, and it is sometimes difficult to determine which is the cause of the distress for which the patient consults a surgeon. The co-existence of the two conditions is so frequent in his practice that oftentimes he keeps patients under observation for days, perhaps weeks, to determine which is the more distressing condition.

Drainage in Abdominal Surgery.—Dr. J. W. Long of Salisbury, North Carolina, said that the chief purposes of this procedure are to drain away existing septic material; to afford an exit for the sepsis; to provoke adhesions and thereby wall off weak spots; to keep the peritoneal cavity free of blood and other fluids; to allow of a more certain knowledge of the conditions present. Gauze drains are sometimes employed as tam-

pons to control hemorrhage. These features of drainage were discussed in the order given. After a historical résumé the author spoke of the objections to drainage. These were as follows: (1) Drainage is deceptive. (2) Cases not drained do better. (3) Drainage is neither scientific nor workmanlike. The last statement was made with an apology and due deference to those distinguished gentlemen who drain most of their cases.

Dr. Manning Simons of Charleston, South Carolina, agreed in the main with the observations of Dr. Long, but said there are some surgeons who would not admit that draining in suppurative cases is an evidence that something has been left which ought to have been removed, or that the surgeon had done something that he ought not to have done. He apprehends that there are many cases in which suppuration is not confined to the tubes, but has diffused itself more or less over the pelvic and abdominal cavities. The surgeon's conscience would scarcely, in such a case, prompt him to close up all avenues for the escape of reaccumulated fluid from the cavity. Drainage is applicable to such cases.

Dr. Howard A. Kelly believes that there is a tendency on the part of the profession to drain entirely too many cases. Of his first one hundred cases, eleven years ago, he drained over 80 per cent. of them. Of his last one hundred cases he drained about 1 or 2 per cent. of them. He would drain cases of localized sepsis in which he could not remove the entire septic area.

Dr. W. E. B. Davis referred to drainage in general septic peritonitis, and said it was impossible to lay down any fixed or definite plan of treatment because results were uniformly fatal. Much good can be accomplished by first using peroxide of hydrogen in the abdomen in this class of cases, and following it with infusion of normal salt solution, injecting, say a quart, under the skin every three hours. This accomplishes even more than multiple drainage in cases of general septic peritonitis.

Dr. Beverly MacMonagle called attention to drainage in connection with surgery of the gall-bladder and gall-ducts. In all cases in which he had operated on the gall-bladder, he had found it was necessary to drain. In so doing it was almost impossible to drain it in such a way that a certain amount of fluid would not escape into the peritoneal cavity, hence the necessity of using a small drain of gauze in the peritoneal cavity itself.

Atresia of the Vagina.—Dr. George H. Noble of Atlanta described a flap operation for the relief of this condition, saying that he had operated successfully in several cases by the plan he had outlined.

Technical Improvements in Surgery of Stomach for Carcinoma.—Dr. Willis G. Macdonald of Albany read this paper. Reference was made to the early history of operations for the relief of this disease. The technic employed by Billroth

in his first pylorotomy was the technic of operations done by most surgeons for a number of years, with very slight modifications. This earlier operation presented many technical difficulties in its performance. The matter of the adjustment of the resected stomach and the duodenum at the completion of the operation was frequently defective. Secondary perforation at the line of suture with subsequent peritonitis has been a frequent cause of death associated with this earlier form of operation. Before giving a more accurate description of the preferable forms of surgical intervention in carcinoma of the stomach, the author considered the limitations of early and late exploratory abdominal section in the treatment of this condition. Any one, or a combination of symptoms, is a sufficient indication for operation: (1) A chronic gastritis which is progressive in character under proper dietetic, medicinal and physical treatment. (2) A loss of gastric motility. (3) Progressive diminution of gastric peristalsis. (4) A diminution of free hydrochloric acid, progressive in character. (5) Emaciation of the patient under forced diet. (6) Reduction of the hemoglobin in the blood, progressive to 65 per cent. or under, and a moderate leucocytosis. The widest extirpation is demanded in carcinoma of the stomach. The author called attention to the careful investigations of Cuneo and Most with relation to the distributions of the lymphatics and lymph-nodes as associated with carcinoma of the stomach. All surgery for carcinoma involves the removal of lymph-nodes as far as is compatible with adjacent anatomical structures. In a complete pylorotomy it is desirable to remove the lymphatics along both curvatures of the stomach as well as those lying behind the pylorus. As a rule the duodenum is not extensively involved in pyloric carcinoma, although a few observers have found infiltration of Brunner's glands in the upper portion of the duodenum. There is little justification for the total extirpation of the stomach in the majority of cases, and the probability of cure will not be greater than surgical resection. The old rule of cutting one centimeter beyond all evidences of carcinomatous infiltration is not wide enough. Personally the author feels that the line of excision in the stomach should be at least three centimeters from the border of the last palpable infiltration, and in the duodenum at least two centimeters from the most dependent portion of the growth. The recently-devised clamps of Kocher were presented for inspection, also diagrams showing their mode of application. By the application of these clamps to the stomach and duodenum with a little care all dangers of sepsis from the stomach and duodenum are avoided, and the rapidity with which a pylorus may be resected is greatly increased. Very little time is required to close the ends of the stomach and duodenum with a running catgut suture involving all the coats. This again is invaginated within the stomach and the caliber of the duodenum and the stump bur-

ied by rows of Lembert sutures. The manner of performing the subsequent gastro-enterostomy lies largely with the preferences of the surgeon doing the operation. The speaker's earlier gastro-enterostomies were done by the Wolffler method of attaching the jejunum and the anterior wall of the stomach. It appears to him that the two fatal cases in which he applied that method were due to regurgitation of bile into the stomach and persistent vomiting following operation. Some two years ago he began employing Von Hacker's method of attaching the jejunum to the posterior gastric wall with a reanastomosis between the duodenum and the jejunum. The results of this method of operation have been most satisfactory. During the past year he has employed it eight times with seven recoveries. For the most part, the anastomosis between the jejunum and stomach has been made by the suture method, although a number of surgeons have been quite as successful in the employment of the Murphy button. For the secondary anastomosis the author has uniformly used a Murphy button of moderate size. The anastomosis by this method requires very little time for its performance and can be readily completed in five minutes. When an operation has been carried out by this method to its completion the following advantages were claimed for it: (1) Freedom from contamination of the wound by stomach-contents. (2) Accessibility of the neighboring lymphatic nodes for extirpation. (3) No subsequent danger from suture perforation. (4) Freedom from loss of blood. (5) The great saving of time required for the operation. Lateral anastomosis can be readily accomplished by a variety of methods. The immediate mortality for the operation of pylorotomy is an interesting study. Ewald condemned the operation because of its great mortality, 73 per cent., and until 1888 the mortality was somewhere in the neighborhood of 60 per cent. The mortality of Billroth was 45 per cent., of Mikulicz 30 per cent., of Kronlein 25 per cent., of Maydl 16 per cent., and of Kocher 8.7 per cent. Mayo Robson in a study of 572 cases, collected from various sources, finds an average mortality of 30.4 per cent. Guinard found that in 148 cases of pylorotomy with end-to-end anastomosis, deaths were 56, or 37.8 per cent., and in 64 cases of pylorotomy with subsequent lateral anastomosis, there were 10 deaths, or 15 per cent. This showing has been equally favorable in the experience of others.

Menstrual Condition of the Average Girl in Average Health.—Dr. George J. Engelmann of Boston presented an interesting statistical paper on this subject, the facts presented by him being culled from the records of 4873 cases from high and normal schools, colleges and department stores, girls between fifteen and twenty-six, the majority between eighteen and twenty-two, in rather better than average health, in good health, and in numbers sufficient to admit of positive deductions as to what may be termed normal or

average menstruation. In brief, the menstrual period proper is intensified by the increase of all vital energies, followed by a depression which appears with the coming of the flow. Under ideal conditions, and in perfect health, the physiological status is such that this epoch, preceded by a day or two of heightened activity, is marked by a moderate lassitude, mental and physical, the flow persisting for from four to five days, and recurring at regular intervals of about twenty-eight days. It is a period of heightened susceptibility that quickly records any variation from the normal; excitement or exertion, or fatigue, mental or physical, are promptly reflected by variation in the function, and in our every-day life such disturbing elements constantly occur, so that conditions actually existing vary greatly from this ideal. The average period of the average girl in average health presents very different features: Regularity in 50 per cent. of the cases only; recurrence every twenty-eight days in 30 per cent., varying most frequently from twenty-six to forty-two days, 45 per cent. being over twenty-eight. The duration varies from two to seven days, average 4.6; from 66 to 70 per cent. suffer more or less, the number of sufferers varying according to age and nature of occupation, between 30 and 90 per cent. Lessened ability for exertion, mental or physical, is admitted by 60 per cent. Some few are habitually incapacitated from work and 30 per cent. occasionally. The function of the condition of the girl in good health, under modern conditions of life, is by no means an ideal one, and in fact the functional health of the American girl, the coming mother of American men, is far from what it should be by right of inheritance and surroundings. This fact physicians must recognize, and upon them and educators devolve the duty of study and correction of the evil.

Operation for Marked Prolapse of the Rectum in Women.—Dr. J. Wesley Bovée of Washington, D. C., described an operation for the relief of this condition. In his case marked prolapse of the uterus was associated with hemorrhoids and great procidentia of the rectum in a woman to whom the uterine appendages were of little value. No simple operation would have relieved the rectal condition while the uterus was in such a state of prolapse, and *vice versa*. These conditions caused him to resort to the unique radical procedure which can be best described by narrating the following case: Sister V., thirty-five years of age, had been treated unsuccessfully a number of years for prolapse of the rectum, uterus, and hemorrhoids. When she came under the speaker's care she was suffering from large internal and external hemorrhoids, and a protruding roll of fully three inches of the rectum that was thickened and much discolored. The uterus was of normal size, with its cervix just behind the pubes, and the fundus very low posteriorly. A few days later, March 6, 1900, operation was done. The hemorrhoids were first removed, then the ab-

domen was opened by the usual subumbilical median line incision. The left ovary was about three times its natural size, and largely consisted of numerous cysts. The appendages were removed and the uterus firmly fixed to the abdominal wall by four interrupted, strong catgut sutures, which passed through a considerable portion of the uterine fundus at the top, and the principal fascia of the abdominal wall on either side of the incision. The rectum was drawn upward until it was fairly tense, and so held by an assistant until it was sutured to the cul-de-sac and posterior wall of the uterus up to the abdominal wall. This was done by a running catgut suture. It completely divided the retro-uterine pelvic cavity into two equilateral ones.

Carbolic Acid in Surgery.—Dr. Seneca D. Powell of New York read this paper. In 1894 he first became convinced that he could control the action of carbolic acid by means of alcohol under all circumstances. At that time he used it in its full strength of 95 per cent. in an abscess cavity upon a patient suffering from suppurative appendicitis. Since then he has extended its use to all cases in which he has had to fight disease due to microbic infection, and he is now prepared to assert its safety and reliability, when properly brought in contact with an infected surface. He bases his statements on the results of treatment of hundreds of cases which have come to his clinic at the Post-Graduate Hospital. The speaker has used carbolic acid for years in the treatment of infections and bone diseases in various parts of the body. He recommends its use likewise for erysipelas and abscesses. During the past six years he has treated every phase of microbic disease with this agent, and as early as 1894 hip-joint cases were treated by him with pure carbolic acid and with a large glass drainage-tube. Abscesses, wherever located, can be speedily treated by the injection of, or swabbing with, pure carbolic acid. The size of the abscess, or the amount of surface covered, is not a factor. Only thorough drainage and complete removal of the pyogenic membrane need be considered.

Excision and Irreducible Dislocations.—This subject was discussed by Dr. Willis F. Westmoreland of Atlanta who reported two cases. The first one was an arthrotomy, with excision of the head of the humerus for old dislocation of the shoulder-joint. Miss A. W., white, aged twenty-four years, was thrown from a buggy, right shoulder and elbow-joint being injured. A physician saw the patient, but made no diagnosis. On account of continued pain and lack of motion she consulted a second physician, who recognized dislocation of the shoulder. An effort was made to reduce it, but failed. Upon examination, the author found a subcoracoid dislocation of shoulder-joint, and a badly treated fracture of the external condyle of the humerus. The patient was anesthetized, and an unsuccessful attempt to reduce by Kocher's method was made.

Any legitimate force completely failed to even move the head of the humerus. Patient held for operation. A vertical incision, begun just below the acromion process and carried along the inner aspect of the deltoid for about five inches, was made. When the capsule was reached it was split transversely; the head of the humerus was released from its attachments by dry dissection. The head of the bone was then turned out and excised close to the attachment of the capsule. The upper portion of the humerus was pushed up against the glenoid fossa, and the capsule shortened sufficiently to hold it there. In shortening the capsule all excess is inverted and helps to fill the cavity, leaving a very much smaller space to be filled in by adventitious tissue. In this case the slack of the long tendon of the biceps was excised, and the tendon united by mattress and coaptation sutures. The incision was closed, except a small central opening for drainage. There was primary union; and the patient made an uneventful recovery and was discharged with full movements. The second case was as follows: E. D., male, white, aged twenty years. Shoulder dislocated two months ago while boxing. Immediately after the injury a local physician attempted reduction, but failed. Four days later the patient was anesthetized and Dr. Westmoreland made an unsuccessful attempt to reduce by Kocher's method. On the same day an operation similar to the one in the case was performed and patient made an uneventful recovery.

A Plea for the Better Appreciation of the Limitations of Operative Work.—This was the title of the President's Address, delivered by Dr. A. M. Cartledge of Louisville. Every surgeon must be his own arbiter in deciding questions, and the judgment he displays will depend upon his professional learning and wisdom. Methods of surgical diagnosis have undergone striking modifications within the past decade and have influenced operative work. The older surgeon made his diagnosis of abdominal and pelvic lesions slowly; his skill at that time consisting largely of a delicate sense of touch, trained eye to detect asymmetry, keen ears to differentiate sounds elicited by percussion, and methodical investigation of all symptoms, both subjective and objective. The result was, his diagnosis having been made, he next carefully and with abundant time before him considered the advisability of operative intervention. It is as much a part of the knowledge of surgery to know its limitations, or what it cannot do, as to be justly proud and ready to perform that which it has very good reasons to believe will be productive of relief, and cure to the thousands of unfortunates who seek its aid. From every standpoint there is much to be gained by a better appreciation of operative limitations. A plea was entered for more careful diagnoses with an especial view to the detection of attending visceral disease, in short, to try and become more expert prognosticians. There

are two phases of surgical practice alone, the careful observance of which would reduce the mortality of surgical operations so low as to cause us to believe that exactness had almost been reached. He referred to greater care in the detection of kidney lesions and instituting measures to correct this frequent cause of unfortunate operative terminations, and the still prevalent practice of operating upon hopeless cases of cancer. In reviewing the field of abdominal and pelvic surgery it would seem that surgical limitation is most often exceeded and mortality unnecessarily increased in operations for the following diseases: General septic peritonitis, extensive carcinoma of the ovaries, uterus and intestine, and operations upon the gall-passages in long-continued and profound cholemic patients without adequate preparation. He protested against the too frequent practice of operating in these affections. As to laparotomy in cases of general diffuse septic peritonitis, with irrigation and drainage, reports of such cases have appeared in literature from time to time, but the mortality up to the present time of such operations in exaggerated types of the disease is so great as to make it, in his opinion, an unwarranted procedure. He is strongly impressed with the belief that the successful cases reported have been cases of beginning general peritonitis, or of widely-extending, yet circumscribed peritonitis. In closing, the author impressed the importance of carefully preparing cholemic patients before subjecting them to operation with a view of lessening mortality. Another class of cases amenable to the same course of preliminary treatment are those of inefficient renal action.

Excision of External Carotid in Malignant Diseases of Face.—Dr. William P. Nicolson of Atlanta, Georgia, reported two cases. The first patient had a sarcoma of the nose which began apparently as a polypus about eight months before. This was removed several times, but recurred promptly after each removal. When seen a few weeks before the operation this had extended sufficiently to completely obstruct the nose and cause great pain. At the time of operation this had progressed in a few weeks only to such an extent that the growth pressing under the orbit had forced the right eye out of position, and there had been also an extension upon the forehead on the left side. The constant use of morphine was necessary. The right common carotid was excised on October 3d, and the wound healed promptly. The enlargement upon the left side of the forehead broke down, and the large abscess was opened a few days after the operation. The pus from this, or the discharge from the nose, set up a violent ophthalmia, from which the patient suffered for a week or ten days. Two weeks from the day of the first operation the carotid upon the left side was removed, and very soon the symptoms improved in every respect, the patient was relieved of suffering, and the growth not only checked, but it apparently began to re-

cede with the prospects of a material improvement. The second case was one of inoperable sarcoma of the upper jaw of three months' duration and of very rapid growth. In this case the interval between the operations was longer than in the first on account of the occurrence of a severe secondary hemorrhage on the seventh day, which was due to tying the vessel too close to the bifurcation. The first operation in this case relieved the patient of all symptoms caused by the rapidly-increasing pressure, and the growth apparently subsided materially. Sufficient time has not elapsed since the second operation to give much idea as to how much permanent decrease there would be in the tumor. It was claimed that in these cases the patient was doomed if nothing could be done, and this appeared to be the only recourse that offered any hope. He had performed various operations upon the external carotid artery in cases of malignant diseases, having tied the vessel twenty-six times, four of these being cases of double ligation. The operation had not been accompanied by any mortality. Little could be accomplished by simply ligating even both carotids, because the circulation was reestablished so rapidly that the nutrition could not be cut off with any degree of permanence. The operation of excision, as recommended by Dawbarn, seemed to be the only procedure that offered any hope, and while this would not perhaps produce much permanent effect, it seemed undoubtedly true that the lives of patients could be much prolonged and their sufferings greatly lessened.

Autointoxication from Renal Insufficiency With or Without Disease of the Kidneys.—Dr. James T. Jelks of Hot Springs, Arkansas, read this paper. For years he had examined the urinary output for twenty-four hours of every patient who consulted him. This has been a revelation to him and therapeutics based thereon have enabled him to accomplish what he described as marvelous results. Abundant evidence was adduced to show that as the result of faulty elimination by the kidneys, without the presence of disease in these organs, patients may have vertigo, contracted capillaries, cold skin, especially of the extremities, so-called "sick headache," melancholia, palpitation of the heart, interrupted heart beat, various forms of skin diseases, rheumatism, gout, hysteria, epilepsy, and even genuine insanity. Among the remedies used to correct this faulty elimination are squills, milk, rectal, or hypodermic injections of normal saline solution, digitalis or its derivatives, sodium phosphates, sodium salicylate, Vichy water, etc. All of these were used in connection with baths, when it was possible to give them, and the patients were ordered to drink from one-half to one gallon of hot water daily. Twenty-five cases were detailed as having been treated along the lines mentioned, with the most gratifying results.

Dr. George S. Brown, of Birmingham, made (a) a supplementary report regarding a case of

litholopaxy previously presented to the Association, and (b) a supplementary report with reference to a case of vesicorectal fistula.

Dr. James A. Goggans of Alexander City, Alabama, reported one case of strangulated femoral hernia in a woman, forty years of age; three cases of extra-uterine pregnancy; one case of thoracotomy for empyema, and one case of ovarian cyst.

Life-Saving Measures in Obstetric Work.—R. R. Kime of Atlanta said that leaving out of discussion instrumental deliveries, Cesarean section, symphysiotomy, etc., the most important life-saving measures were saline infusions, medicinal remedies, serotherapy, hydrotherapy, and drainage. In cases of placenta prævia and postpartum hemorrhage saline infusions or intravenous injections are of prime importance, not only to save life, but to lessen susceptibility of infection and hasten recovery.

Pseudomembranous Enteritis and Abdominal Surgery.—Dr. Frank A. Glasgow of St. Louis called attention to this very common disease and urged physicians to study its relations to appendicitis.

Solid Ovarian Tumor.—Dr. John G. Earnest of Atlanta reported a case of solid tumor of the ovary. The patient, Miss M., aged thirty-two years, was seen June 24, 1900. She was a very small woman with a narrow pelvis, had been gradually losing flesh for several months. For months patient had fever every day. There was constant pain in the pelvis; was very despondent, worn out and exhausted. She had a constant watery diarrhea, occasionally interrupted by a few days' constipation, and accompanied by great abdominal distention. This condition, when occurring, was relieved with difficulty, requiring active purgatives and free use of enemas. Nausea was distressing. When the abdomen was opened a mass reaching above the umbilicus was observed. It stood out prominently in the median line, was symmetrical, smooth and hard. It was so firmly fixed that it could not be moved. The dark line down the center of the abdomen was unusually pronounced. Examination by the vagina was somewhat hampered by an unruptured hymen, and tenderness due to the local peritonitis, but he found the cervix pointing forward, low down, and twice its normal size; the uterus retroverted, firmly fixed, and apparently continuous with the superimposed tumor. Rectal examination disclosed that the uterus and tumor were parts of the same body. The fundus uteri could not be reached through the rectum. He believed it to be a uterine fibroid. Patient declined operation until she could go to her home and build up under the care of her family physician. This she did, returning August 1st. On August 3d he opened the abdomen, evacuated a small amount of light-yellow ascitic fluid. The abdominal peritoneum was mottled with dirty brown. The tumor showed the pearly luster of an ovarian tumor. It had so grown that it

seemed to be caught under the promontory of the sacrum and was adherent to the pelvic wall. It was enucleated with some difficulty. The pedicle was from the right side and comparatively small. The tumor, when removed, was found to be ovoid in its general outline, with an indenture corresponding to the promontory of the sacrum. It measured twenty centimeters in length, and about fourteen in breadth at the widest point. When cut open its appearance was very much that of an ordinary uterine fibroid, the tissue being quite dense. The cortex was united to the tumor by a thin layer of cellular tissue infiltrated with serum. No microscopic examination was made. At first it was supposed to be a sarcoma, but careful examination showed the fibers to be distinct and arranged in irregular whirls, as in uterine fibroids, and the tissues quite as hard as any fibroid and absolutely solid without a break. The recovery was uninterrupted.

Histogenesis of Ovarian Dermoids.—Dr. W. D. Haggard, Jr. of Nashville gave a verbal abstract of a paper on this subject. He stated that dermoid cystomata of the ovary differ essentially from dermoids in the orbit, pharynx, mediastinum, scrotum, coccyx and elsewhere. The last are unquestionably from inclusions or nipping off of the ectoderm in the development of the embryo, which is similar to the "healing in" of skin in wounds and the subsequent development of a dermoid growth. These structures all contain sebaceous material, hair, plates of bone, teeth, etc., and purely dermal derivatives. Ovarian dermoids contain derivatives of all the mesoderm and enteroderm as well, and hence some adequate explanation other than the inclusion of the skin-forming layer must be forthcoming. All sorts of curious theories have been successively advanced. The virginal pregnancy idea was succeeded by one which ascribed the origin of these growths to prolonged ungratified sexual desire on the part of the woman. A man who jested at his wife during travail was afflicted with a pregnancy (dermoid) of the thigh. Dermoids of the ovary, however, are akin to the teratomata, and it is to the ovum itself that we must look for a solution of the vexed problem of their etiology. Wilms was the first to claim the ovulogenous origin of these growths. Some pathological activity on the part of the ovum in the Graafian follicle is responsible. Bland Sutton found a dermoid of the ovary in a horse when the growth was undoubtedly in the ovum suspended in a large cystic Graafian follicle. Similar cases have been reported in women. Kraemer has recently gone over the entire field and amassed an amazing amount of material that goes far to settle the question, and prove that ovarian dermoids contain products of all the blastodermic tissues, that they cannot spring from an evolutionary inclusion simply as dermoids elsewhere undoubtedly do, that they are of ovulogenous origin, a sort of parthenogenesis. In evidence an attempt at formation of nearly all

the organs of the body has been found in the lawless development of these benign growths. Retinal pigment, more or less complete, optical vesicles, a rudimentary pharynx, with an attempt at the formation of an esophageal tube; the sympathetic nerves in the alimentary canal, and, curiously enough, a rudimentary uterus, with branching cells of the cervix and the glands of the fundus; mammæ (one case of which underwent carcinomatous development). An easily-recognized heart provided with valves was found by Johnston; and many other more or less perfectly formed organs and tissues other than dermal have been reported by investigators too numerous to individualize. These data have, as remarked by Clark, dealt a telling, if not fatal, blow to the inclusion theory of ovarian dermoid evolution. The researches of Kraemer and others seem to establish convincingly the ovogenous theory of their development.

The following papers were likewise read and discussed: "Removal of Cystic Gall-Stones," by Dr. Howard A. Kelly of Baltimore; "Osteo-Arthritis of the Spine," by Dr. Michael Hoke of Atlanta; "Epi- and Hypospadias, with Special Reference to the Operative Treatment," by Dr. W. F. Parham of New Orleans; "Retroflex Incarcerated Gravid Uterus," by Dr. W. A. Quinn of Henderson, Ky.

Much to the regret of the members, Dr. W. E. B. Davis resigned the secretaryship, owing to the pressure of other duties, after having served the Association ably and efficiently from its organization to the present time. A resolution was offered and unanimously adopted thanking Dr. Davis for his efficient services, tireless efforts, and faithful devotion to the interests of the Association during a period of thirteen consecutive years.

Officers Elected for 1901.—President, Dr. Manning Simons of Charleston, S. C.; Vice-Presidents, Drs. George H. Noble of Atlanta, Georgia, and L. C. Boshier of Richmond, Va.; Secretary, Dr. W. D. Haggard, Jr., of Nashville, Tenn.; Treasurer, Dr. F. W. McRae of Atlanta, Georgia.

Richmond, Virginia, was selected as the place for holding the next annual meeting; time, third Tuesday in November, 1901.

Twenty-nine new members were elected at this meeting. After the installation of officers, and the adoption of resolutions of thanks, the Association adjourned.

BOOK REVIEWS.

Contributions from the William Pepper Laboratory of Clinical Medicine. University of Pennsylvania, Philadelphia.

THIS is a quarto volume of 500 pages made up of 14 contributions from the Pepper Laboratory, all of exceptionally high scientific character. It is a contribution appropriate to the founder.

While most of the papers are technical in character, some stand out as of greater interest from their relation to clinical medicine. Thus, the studies on Leukemia and the Pathology of the Erythrocyte, by Drs. Taylor and Stengel, are practical and timely in view of the rapid strides made in hematology. The Restitution of the Blood Plasma following Intravenous Saline Injections after Hemorrhage, by Drs. A. E. Taylor and C. H. Frazier, offers a practical demonstration of the benefits of this therapeutic procedure. The Influence of Immoderate Water-drinking upon Metabolism and Nutrition, by Dr. D. L. Edsall, is a capital study of this frequent procedure and strikingly demonstrates the evils of the habit. We would like to see similar products from our large university laboratories.

International Clinics. A Quarterly of Clinical Lectures and Especially Prepared Articles on Medicine, Surgery, etc., by Leading Members of the Medical Profession Throughout the World. Edited by Henry W. Cattell, A.M., M.D. Volume II., Tenth Series, 1900. Philadelphia: J. B. Lippincott Company.

THE present volume of "International Clinics" contains a good representative series of lectures on practical subjects. The editor himself, in the initial article, describes the kromoskop method of reproducing pictures of pathological specimens in their original colors. Every teacher realizes how important a matter for educational purposes such an advance in our present method of illustrating pathology would prove. The kromoskop, as invented by Mr. Frederick Ives, is probably the most successful means of photographing in colors yet presented to the public. The results obtained by his method as illustrated in the frontispiece of the book, the kromogram of an ovarian cyst, are certainly very satisfactory. New York teachers of medicine are well represented in the present volume of the clinics. We note among the contributors the names of Dr. Andrew H. Smith, Dr. Alexander J. C. Skene, Dr. J. Riddle Goffe, Dr. William H. Katzenbach, Dr. Robert T. Morris, and Dr. Charles Warrenne Allen.

Dr. J. W. Ballantyne, of Edinburgh, contributes an important article on the therapeutics of the unborn infant, and Dr. J. C. Wilson, of Philadelphia, a clinic on atypical enteric fever of peculiar interest at the present time when practitioners in many parts of the country are being confronted with unusual forms of typhoid fever. Dr. Andrew H. Smith opportunely discusses the inadequacy of the physical signs as indicating the gravity of pneumonia, and Dr. Charles J. Aldrich, of Cleveland, contributes a very practical clinic on compressed air illness, or caisson disease, with which he has had considerable experience during the construction of the new water tunnel beneath the bed of Lake Erie.

As a whole the present volume of "International Clinics" is an excellent mirror of hospital practice in various parts of the medical world.

and its perusal should form some compensation to the busy country practitioner for the opportunities he might have if situated in a medical center.

Operative and Practical Surgery. For the Use of Students and Practitioners. By THOMAS CARWARDINE, M.S. (Lond.), F.R.C.S., Assistant Surgeon, Bristol Royal Infirmary. 8vo., 661 pages. Illustrated. Bristol: John Wright & Co.

"I HAVE thought that I may for once leave the science of surgery alone—it is, indeed, well able to take care of itself—and, instead of the science, I shall speak of the art." In this quotation of J. Greig Smith's is embodied the true point of view in and scope of Mr. Carwardine's text-book of surgery. Beginning with a section on general considerations, the author therefrom directly passes to a discussion on bandaging, dislocations, and splints and fractures. This portion is an admirable statement of the practical points connected with the subject. Section III. is a lucid summary of the art of bone, joint, nerve and tendon surgery. Ligation of the principal arteries with special reference to anatomical details is also treated of in the same section. Following this come the discussions of regional surgery in its varied aspects. Finally, the book terminates with a very full index which will be particularly valuable in looking up special points. The arrangement is otherwise so excellent that little difficulty ought to be experienced in finding the main points relating to any given subject.

In looking over the book one readily sees that in the matter of technical steps of various operations the author has kept pace with the movement of the time. In the matter of aseptic technic, however, the author evidently relies too much on antiseptics and not sufficiently on heat as a factor in sterilization. Outside of this one point the book will be found an excellent guide to the art of operative and practical surgery.

Clinical Examination of the Urine and Urinary Diagnosis. A Clinical Guide for the Use of Practitioners and Students of Medicine and Surgery. By J. BERGEN OGDEN, M.D., Instructor in Chemistry, Harvard University Medical School, etc. W. B. Saunders & Company, Philadelphia.

CONCEIVED in a thoroughly modern spirit the present volume on the examination of the urine is one of the best that has been presented to the student and practitioner of medicine. There remains little else for the reviewer to say as the subject of urinary analysis is one so thoroughly exploited by numerous publications. The text is clear and well written, the illustrations numerous and, for the most part, well executed, many of them in color. We regret to see, however, so many of the crude, old, time-worn illustrations. The modern methods of chemic spelling are not followed, but this perhaps is an advantage rather than a blemish. The work is thoroughly "up to date" and can be heartily recommended.

The Care of the Child in Health. By NATHAN OPPENHEIM, A.B., M.D., Attending Physician to the Children's Department of Mt. Sinai Hospital. Three hundred and eight pages. New York and London: Macmillan & Co., 1900.

DR. OPPENHEIM'S work on the "Medical Diseases of Childhood" was written for his fellow practitioners. This book is written for his patients, or rather, to be put into the hands of mothers, and to be boiled down for nursery-maids. It is a good, sensible book, in the form of a series of little essays, beginning with the child before he is conceived, and laying down the law very gracefully, but firmly, to the young women who are to become the mothers of the race. The same young women are advised during their pregnancy what to eat, to wear, to do, and to think in order to bear strong, healthy children. Then, presupposing a more or less prevailing ignorance on the subject, the young mother is carefully instructed how to feed and clothe and bathe her child, how to teach him habits of health, and to develop his body to its fullest capacity. It is a good book, and can be safely recommended to physicians to recommend in turn to the up-bringers of children. It is perhaps a trifle too general, and will serve as a book for mothers to lend to their less enlightened friends, rather than a book that is used for steady reference. It contains only what every mother ought to know by education and experience; but as many of them lack that, it will doubtless fill a need.

Laboratory Directions for Beginners in Bacteriology. An Introduction to Practical Bacteriology for Students and Practitioners of Comparative and of Human Medicine. By VERANUS A. MOORE, B.S., M.D., Professor of Comparative Pathology and Bacteriology, New York State Veterinary College, and of Bacteriology, Cornell University Medical College, Ithaca, N. Y. Second Edition, Enlarged and Revised; 1.13 pages. Boston: Ginn & Co., 1900.

THE author begins with general directions as to stocking a laboratory, cleaning glassware, and preparing culture media and the staining solutions. Then follow directions for the making of tube, plate, and Esmarch roll cultures, the making and staining of cover-glass preparations, and the methods of examining these. The properties of bacteria, such as gas-production, motility, and spore-formation are considered, and the more common pathogenic organisms are studied individually. Chapters are devoted to the Widal serum test, isolation and identification of bacteria, studies in disinfectants, milk, water, and animal inoculation for diagnosis. The author has condensed a large amount of practical bacteriology in the form of exercises into a convenient and compact work. It is a very simple guide however.